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ABSTRACT

In the first part of this publication, the committee states the actions believed essential for effective comprehensive planning of education in the province. It argues that more attention should be given to the determination of goals and expectations, the development of programs designed to achieve the goals, the establishment of priorities among programs, the formulation of strategy for implementation, the allocation of resources of money and personnel, and the evaluation of the results. In the second part, the committee applies certain demographic factors to, and shows the effect of other influences on, school enrollment. Forecasts of enrollment are provided at each of the elementary and secondary school levels for the province as a whole. The first chapter contains a summary of findings, conclusions, and recommendations. The subsequent chapters contain more detailed background and data to support and justify the content of the first chapter. (Author/MLF)

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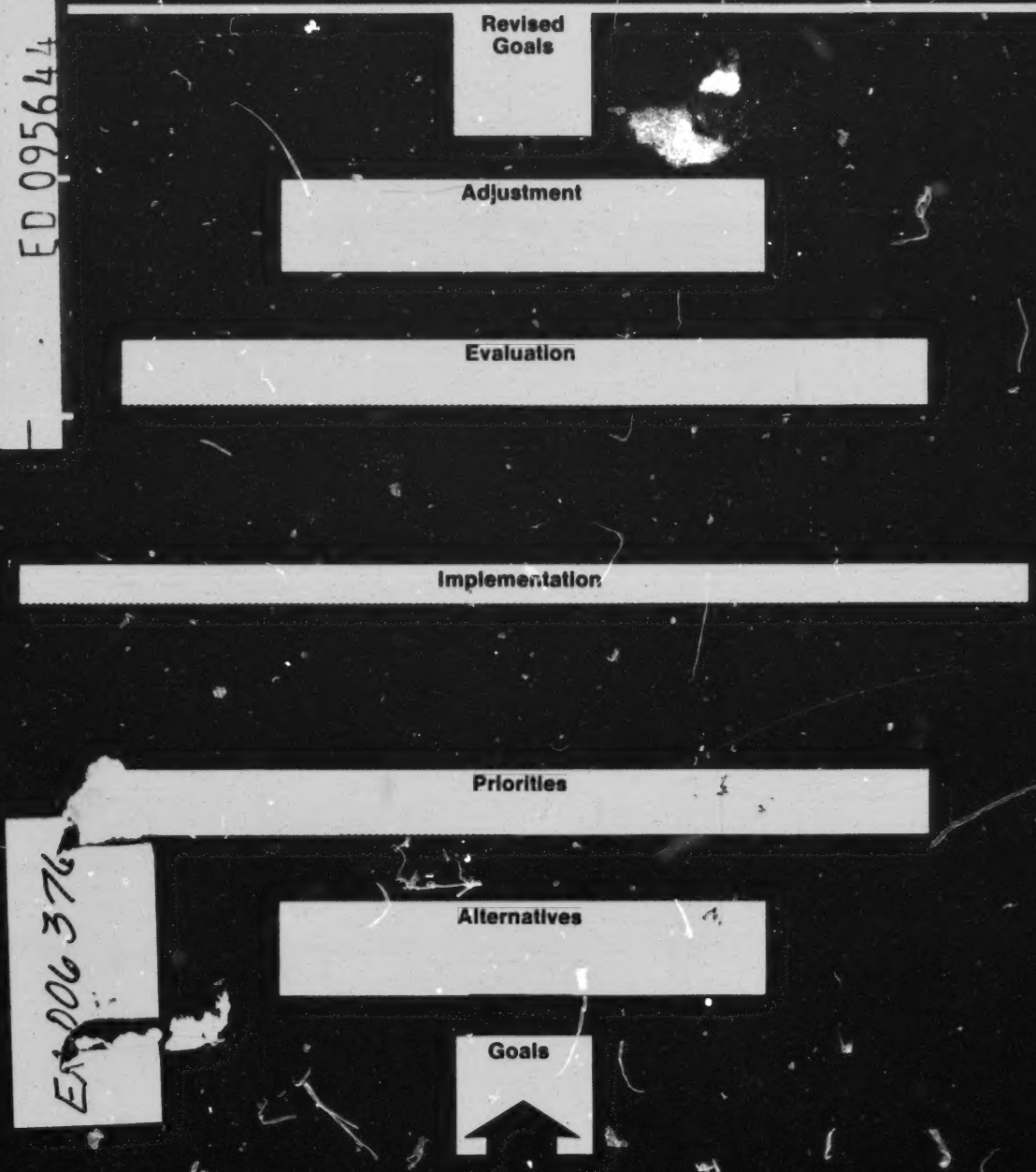

ED006376

Interim Report Number Four

PART I

Planning

PART II

Demographic Influences
on School Enrolment

February, 1974.

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Shoreacres Broadcasting Company Limited,
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Ontario

To His Honour
The Lieutenant-Governor of the Province of Ontario

May it please Your Honour:

We, the members of the Committee on the Costs of Education, appointed by Orders-in-Council, dated the 23rd June, 1971, and the 30th June, 1971, to examine the costs of education for the elementary and secondary schools of Ontario in relation to the aims and objectives, programs, priorities, and the like, of the educational system and to evaluate the programs in the requirements of the present day, and in terms of the expenditures of money for them, submit to Your Honour, herewith, a fourth interim report.

J. G. McKenzie.

Chairman

Paul Lamarsh W. A. Phillips

Hazel Farr John Ronson

Lawrence Kerr D. A. Stowell

February, 1974.

ONTARIC

EXECUTIVE COUNCIL OFFICE

OC-1211/71

Copy of an Order-in-Council approved by His Honour the Lieutenant Governor, dated the 21st day of April, A.D. 1971.

The Committee of Council have had under consideration the report of the Honourable the Prime Minister, dated April 20th 1971, wherein he states that,

WHEREAS it is deemed desirable to examine the costs of education for the elementary and secondary schools of Ontario in relation to the aims and objectives, programs, priorities, and the like, of the educational system,

AND WHEREAS there is a need for evaluation of the programs in the light of the experience with them, the requirements of the present day, and in terms of the expenditures of money for them,

The Honourable the Prime Minister therefore recommends that there be established a Committee on the Costs of Education in the Elementary and Secondary Schools of Ontario for the purposes hereinafter mentioned:

- to study the use of the financial resources being provided for elementary and secondary education in Ontario in the attainment of the educational goals;

- to examine the present grant plan to determine if the various differentiating factors such as course, location, level (elementary and secondary), and type (ordinary and extraordinary) generate funds in proper balance consistent with the needs for the attainment of desirable educational objectives;

- to examine the implications of ceilings on expenditures by local school boards, including the effect on the decision-making and autonomy of local school boards;

- to examine the various aspects of school programs with particular reference to innovations and new concepts as, for example, the "open plan" organization, technical and commercial programs, and use of educational technology, with a view to designing and recommending research studies to determine the effectiveness of these concepts in relation to the aims and objectives of education, these studies to be conducted by contract arrangement with research agencies;

- to communicate and consult with groups and organizations representative

of parents, teachers, trustees, students, and other interested parties;

- after due study and consideration, to make representations and to submit a report or reports to the Government with respect to the matters inquired into under the terms set out herein as the Committee sees fit.

That the Committee be empowered to request submissions, receive briefs and hear persons with special knowledge in the matters heretofore mentioned.

That the Committee be empowered to require the assistance of officials of the Department of Education for such purposes as may be deemed necessary.

That members of the Committee be empowered to visit schools and classrooms in Ontario, by arrangement with local school systems.

The Committee of Council concur in the recommendation of the Honourable the Prime Minister and advise that the same be acted on.

Certified,

Clerk, Executive Council

CONTENTS

Members of Committee i

Letter of Transmittal ii

Terms of Reference iii

Tables vi

Graphs ix

Preface 1

Chapter 1
Summary of Findings, Conclusions, and Recommendations 4

PART I

Chapter 2
Planning in Education 20

PART II

Chapter 3
Population 50

Chapter 4
Live Births 62

Chapter 5
Fertility 76

Chapter 6
Mortality 96

Chapter 7
Migration 108

Chapter 8
Enrolment 134

Appendix 174

TABLES

1. Population of Canada and Ontario
Census Years 1901 to 1971 51

2. Age Distribution of the Population, Ontario
Census Years 1901 to 1971 54

3. Increase in Population of Age Group 0-4, Ontario
Census Years 1901 to 1971 56

4. Population by Age Group, 1941 to 1966, and Enrolment by Age Group, 1945-46 to 1971-72, Ontario 59

5. Vital Statistics, Ontario
1941 to 1971 63

6. Live Births, 1946 to 1966, and Enrolment in Kindergarten and Grade 1, 1951-52 to 1972-73, Ontario 65

7. Live Births, 1941 to 1971, and Years of Probable School Attendance, Ontario

8. Increase in Live Births, 1941 to 1967, and Increase in Enrolment in Grade 1, 1947-48 to 1971-72, Ontario 70

9. Population by Age Group and Dependency Ratios, Ontario
Census Years 1901 to 1971 72

10. Women of Childbearing Ages by Age Group, Ontario
1941 to 1971 77

11. Women of Childbearing Ages by Age Group as Percentage of Total Female Population, Ontario
1941 to 1971 78

12. Age-Specific Fertility Rates, Ontario
1941 to 1971 81

13. Live Births by Order of Birth, Ontario
Census Years 1951 to 1971 84

14. Marriages, Ontario
Census Years 1941 to 1971 85

15. Live Births to Unmarried Mothers, Ontario
Selected Years 1941 to 1971 86

16. Average and Median Ages at Marriage of Single Persons (Never Previously Married), Ontario
Census Years 1941 to 1971 87

17. Divorces Granted, Ontario
Selected Years 1941 to 1971 88

18. Women 15 Years of Age and Over in Labour Force and Participation Rates, Ontario
Census Years 1921 to 1971 89

19. Labour Force Participation Rates for Married Women by Age and Years of Schooling, Canada, 1961 90

20. Average Age at Marriage of Ever Married Women by Age and Years of Schooling, Canada, 1961 91

21. Fertility Rates and Percentage of Childless Women by Age and Years of Schooling, Canada, 1961 92

22. Mortality Rates by Sex, Ontario
Census Years 1941 to 1971 98

23. Age of Decedents by Sex, Ontario
Census Years 1941 to 1971 99

24. Mortality Rates by Age Group, Ontario
Census Years 1941 to 1971 100

25. Infant Mortality Rates by Type of Mortality, Ontario
Census Years 1941 to 1971 104

26. Life Expectancy for Selected Ages, Ontario
Census Years 1931 to 1961 106

27. Immigrants to Canada and to Ontario
1901 to 1971 109

28. Immigrants to Ontario by Ethnic Origin, 1946 to 1961, and by Country of Last Permanent Residence, 1962 to 1971 112

29. Annual Percentage Increase in the Number of Immigrants to Ontario by Age Group
1961 to 1971 114

30. Immigrants to Ontario 19 Years of Age and Under
1961 to 1971 120

31. Migration and Enrolment from Outside Ontario
1961-62 to 1971-72 123

32. Net Interprovincial Migration of Children
1947-48 to 1970-71 124

33. Admissions by Transfer within Province to Elementary and Secondary Schools, Ontario
1957-58 to 1971-72 131

34. Enrolment in Elementary and Secondary Schools as Percentage of Total Population, Ontario
1946-47 to 1971-72 135

35. Enrolment and Annual Increase in Elementary Schools, Ontario
1946-47 to 1971-72 140

36. Provincial Population and School Enrolment, Ontario
1946-47 to 1971-72 142

37. Enrolment by Grade in Public Elementary Schools, Ontario
1946-47 to 1971-72 143

38. Enrolment by Grade in Roman Catholic Separate Schools, Ontario
1946-47 to 1971-72 144

39. Retirements to Enrolment in Elementary Schools, Ontario
1946-47 to 1968-69 146

40. Enrolment by Grade in Secondary Schools, Ontario
1946-47 to 1971-72 148

41. Enrolment and Annual Increase in Secondary Schools, Ontario
1946-47 to 1971-72 149

42. Retirements to Enrolment by Grade in Secondary Schools, Ontario
1946-47 to 1968-69 151

43. Projected Population by Age Group, Ontario
Actual 1966
Projection 1967 to 1981 158

44. Projected Population by Age Group, Ontario
Actual 1971
Projection 1972 to 1981 164

45. Enrolment in Elementary and Secondary Schools, Ontario
Actual 1967-68 to 1971-72
Projection 1972-73 to 1981-82 166

GRAPHS

1. Population of Canada and Ontario
   1941 to 1971 52

2. Increase in Population of Age Group 0-4, Ontario
   1901 to 1971 57

3. Birth Rates, Ontario
   1941 to 1971 64

4. Birth, Mortality, and Natural Increase Rates, Ontario
   1941 to 1971 74

5. Women of Childbearing Ages, Ontario
   1941 to 1971 79

6. Fertility Rates by Five-Year Age Group, Ontario
   1941 to 1971 82

7. Mortality Rates, Ontario
   1941 to 1971 97

8. Infant Mortality Rates by Sex, Ontario
   1941 to 1971 102

9. Immigrants to Canada and to Ontario
   1941 to 1971 110

10. Immigrants to Ontario 19 Years of Age and Under and of All Ages
    1960 to 1971 121

11. Immigrants to Ontario 19 Years of Age and Under by Age Group
    1960 to 1971 121

12. Migration and Enrolment from Outside Ontario
    1961 to 1971 126

13. Net Interprovincial Migration of Children, Ontario
    1947 to 1970 128

14. Admissions by Transfer within Province to Elementary and Secondary Schools, Ontario
    1957-58 to 1971-72 132

15. Enrolment in Elementary Schools, Ontario
    1946-47 to 1971-72 136

16. Enrolment in Elementary and Secondary Schools, Ontario
1946-47 to 1971-72 137

17. Enrolment in Elementary and Secondary Schools as Percentage of Total Population, Ontario
1946-47 to 1971-72 138

18. Projected Population, All Ages, Ontario
Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981 139

19. Projected Population by Age Group 0-4, Ontario
Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981 160

20. Projected Population by Age Group 5-14, Ontario
Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981 161

21. Projected Population by Age Group 15-19, Ontario
Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981 162

22. Enrolment in Elementary Schools, Ontario
Actual 1967-68 to 1971-72
Projection 1972-73 to 1981-82 169

23. Enrolment in Secondary Schools, Ontario
Actual 1967-68 to 1971-72
Projection 1972-73 to 1981-82 170

PREFACE

Aware of the trend towards more sophisticated planning in education that has developed during the last ten years, the Committee on the Costs of Education recognizes the need for a comprehensive plan for educational development at the provincial, school board, and school levels. Plans for curriculum, teacher education, learning materials, technology, evaluation, accommodation, and transportation must be integrated to ensure a consistent directing of the total enterprise towards accepted goals.

In the organization of this report we have continued the format of earlier reports by providing in the first chapter a summary of our findings, conclusions, and recommendations. This pattern enables the reader to secure in capsule form a knowledge of the main considerations on which our proposals are based. For those who wish to delve more deeply into the subject of the report and for those who may have a special interest in particular areas, we have felt obliged to provide in the remaining chapters some more detailed background information and data to support and justify the content of the first chapter. While this arrangement leads inevitably to some repetition, we believe that the benefits to be realized justify the adoption of the procedure we have used.

Part I of this Fourth Interim Report is a statement of the actions that we believe essential for effective comprehensive planning of education in Ontario. It does not try to describe in detail all of the factors that ought to be taken into account in developing a plan since any "plan for planning" must be developed in the context of the circumstances that prevail in each school system and in each school. These differ, but regardless of the differences, the unavoidable conclusion is that more attention must now be given to the determination of goals and expectations for the educational enterprise, to the development of programs designed to achieve the goals, to the establishment of priorities among programs, to the formulation of strategy for implementation, to the allocation of resources of money and personnel, and to evaluation of the results. We have little doubt that integrated planning of these activities can contribute significantly to improving the quality of education.

Knowledge about the number of people to be served is obviously of paramount importance in the planning of almost every aspect of educational services. Numbers determine, within a narrow range, the school and classroom accommodation to be made available, the transportation facilities to be provided, the number of teachers to be employed, the amount of supplies to be purchased, and the extent of the supporting supervisory and administrative structure and services to be organized. Requirements in these areas account for almost all the expenditures made by school boards. Consequently, any analysis of the costs of education must be based to a considerable extent on enrolment figures, and any estimate of future costs will be dependent primarily on the best possible forecast of enrolments.

Part II of this Report considers the demographic factors that influence school enrolments. The chapters on population, live births, fertility, mortality, and migration provide statistical data and indicate the significance of these factors in the determination of school enrolments. We are convinced that decision-makers at the provincial, school system, and school levels should have a greater awareness of the impact of these factors and ensure that they are applied in developing accurate forecasts of enrolments.

Patterns of expansion that developed over a period of twenty-five years in Ontario were, apparently, accepted by some jurisdictions, almost without question, as applicable for forward planning. One example is in the provision of school buildings where projected building programs in 1970 and 1971 did not adequately take into account changes in the factors that determine population and that resulted in declining numbers in the pre-school age group and, therefore, in future enrolment. A more sophisticated analysis of demographic influences would have indicated a greatly reduced need for school accommodation to 1981.

We hope that Part II of the Report will help officials, trustees, administrators, and planners develop an awareness of the importance of demographic influences on both long-term and short-term forecasts of enrolments. It is essential that professionals understand and apply the principles of demographic

analysis to the populations of their jurisdictions if wastage and misapplication of scarce resources are to be avoided. The material in each of Chapters 2 to 7 inclusive is not intended to be a definitive statement of the topic with which it deals. If the analysis of the data in each case serves to indicate the importance of the demographic factor in the development of accurate enrolment forecasts and if it encourages a more detailed and sophisticated study of each factor by those concerned, it will have served its purpose.

The application of the demographic factors described in Chapters 3 to 7 inclusive and the effect of other influences on enrolment are considered in Chapter 8. Forecasts of enrolment are provided at each of the elementary and secondary school levels for the province as a whole. Although the assumptions on which they are based may need amendment as actual figures become available each year, the forecasts do, nevertheless, provide a guide to the numbers for whom educational planning will be necessary. Observable trends at the provincial level may not, of course, be completely applicable to a particular school system or a specific school within that system because of circumstances unique to the jurisdiction or area. Consequently, it is essential that each board initiate and keep up to date its own studies as a means of ensuring that its planning, in so far as numbers are concerned, is based on accurate data and information. We hope that this Interim Report Number Four will contribute to the attainment of this objective.

CHAPTER 1

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The rapid expansion of the educational enterprise in Ontario following World War II left little time to look ahead. Emphasis had to be placed on meeting the immediate demand for new schools, more classrooms, additional teachers, increased supplies, extended technology, and extra equipment. While some planning was done in particular areas, for example in the provision of school accommodation, the problems of expansion were so demanding that trustees and officials were preoccupied with the provision of more of everything just to meet the situation as it developed almost from month to month or even from day to day. The success that was achieved in meeting these quantitative needs over a period of twenty-five years is a tribute to the commitment that the public, their representatives, the profession, and all those associated with the expansion, had to education.

A. Planning

(a) Need for Planning

With the decline in enrolments now being experienced and the consequent de-emphasis on expansion, it is imperative that provision be made for integrated, comprehensive planning of all aspects of the educational enterprise including curriculum, teacher education, special education, educational technology, school buildings, and the like. The opportunity now exists for renewed attention to the qualitative aspects of education. Basic to improvement in quality is a clear statement of the accepted goals of education at the Ministry of Education, school system, and individual school levels. In one of its other reports,[1] the Committee has made the case for such a statement and the means by which it ought to be developed. When the statement of goals is available, planning towards the realization of those goals becomes possible. While some limited provision for planning exists in the Ministry of Education, in a number

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[1] Goals and Programs of Education, Interim Report Number Five, Committee on the Costs of Education, Queen's Printer and Publisher, Toronto, 1974.

of school boards, and in some schools, it is the view of the Committee that these arrangements are inadequate to achieve the integrated, comprehensive planning essential to the provision of high quality education.

WE RECOMMEND,

(1) THAT THE MINISTRY OF EDUCATION ESTABLISH A PLANNING UNIT WITHOUT DUTIES IN THE LINE ORGANIZATION BUT WITH RESPONSIBILITY FOR THE DEVELOPMENT ON A CONTINUING BASIS OF AN INTEGRATED, COMPREHENSIVE PLAN FOR QUALITY EDUCATION IN ONTARIO IN ACCORDANCE WITH ACCEPTED GOALS AND EXPECTATIONS DETERMINED BY CONSENSUS OF THOSE CONCERNED;

(2) (i) THAT EACH SCHOOL BOARD GIVE FIRST PRIORITY TO THE DEVELOPMENT OF A "PLAN FOR PLANNING" WITHIN ITS JURISDICTION AS AN EXTENSION OF, AND CONSISTENT WITH, THE PLANNING FRAMEWORK DEVELOPED FOR THE PROVINCIAL LEVEL BY THE MINISTRY OF EDUCATION, BUT RECOGNIZING THE UNIQUE CHARACTERISTICS AND NEEDS OF THE LOCAL JURISDICTION, AND

(ii) THAT THE SCHOOL BOARD DELEGATE RESPONSIBILITY TO EACH SCHOOL TO PLAN, WITHIN THE FRAMEWORK ESTABLISHED BY THE BOARD, THE EDUCATIONAL PROGRAM FOR THE COMMUNITY SERVED BY THE SCHOOL.

(b) Organization

The planning function within the Ministry of Education is assigned to the Planning Section of the Planning and Research Branch in the Education Development Division. Included in the Branch are two other sections, Research and Statistical Analysis. The position of the Planning Section in a particular division reporting through one assistant deputy minister makes it difficult, if not impossible, to achieve the necessary cooperation from branches in other divisions reporting through two other assistant deputy ministers. If adequate provision is to be made for integrated, comprehensive planning

proposed by this Committee, a Planning unit ought to be established in a staff relationship to the office of the Deputy Minister of Education. The existing Research Section and the Statistical Analysis Section might well be continued in a branch redesignated as the Research and Statistics Branch in the Education Development Division.

WE RECOMMEND,

(3) THAT A SEPARATE PLANNING UNIT BE ESTABLISHED IN THE MINISTRY OF EDUCATION AS A STAFF BODY RESPONSIBLE TO THE OFFICE OF THE DEPUTY MINISTER OF EDUCATION; THAT THE EXISTING RESEARCH SECTION BE GIVEN A NEW NAME MORE DESCRIPTIVE OF ITS FUNCTIONS; THAT THE EXISTING STATISTICAL ANALYSIS SECTION BE DESIGNATED THE STATISTICS SECTION; AND THAT THE LATTER TWO SECTIONS BE CONTINUED IN A RENAMED BRANCH IN THE EDUCATION DEVELOPMENT DIVISION.

(c) Staffing

Of special importance is the staffing of the Planning unit. In 1972-73, the Planning and Research Branch of the Ministry of Education had a Planning Section headed by a Chief Education Officer, with a second Education Officer, a Program Analysis Coordinator, four Program Analysts, and three supporting staff for a total of ten personnel. Although the description of the functions of the Section included a number of activities that might involve educational programs, the emphasis seemed to be on financial analysis. In any case, it was apparent that the Planning Section was not performing the integrated and comprehensive planning function being proposed by this Committee. It was unclear whether, in practice, the Section had not been given authority to perform this role, or was considered unable to assume it, or felt that it was not prepared to undertake it.

In any case, the Committee concluded that the staff of the proposed Planning unit ought to include several members with knowledge of the principles and

theories of planning. While academic preparation and practical experience in education and other fields is of inestimable value, these alone do not provide an adequate background for staff engaged in integrated and comprehensive planning. Ideally, each member of the Planning unit should possess a combination of academic preparation and experience in both his particular discipline and the science of planning.

Because planning in education must be related to the developments in other spheres of society, the Planning unit ought to have a range of expertise represented by its staff. The head ought to be an educator of considerable stature, who has had not only broad experience in curriculum, supervision, administration, and finance, but also considerable background in the theory and practice of planning. It may be that other educators with special competencies in particular areas, for example, in curriculum and early childhood education, should be seconded to the unit from time to time. While the Committee did not try to identify all the other areas of expertise that should be represented by the staff of the Planning unit, it did recognize the importance of a first-rate economist, an outstanding sociologist, and representatives from the fields of finance, demography, statistics, and research, each with planning background, preferably in education.

It will not be possible or necessary to duplicate at the school board level the planning expertise that ought to exist in the Planning unit of the Ministry of Education. But it is important that adequate provision be made by each school jurisdiction for planning across the system and within the individual school. At the system level, it is imperative that a senior official be assigned responsibility for planning and, where the system is large enough, that additional expertise be provided. We are aware that an Executive Council of senior officials has been established in many of the larger jurisdictions, but this group is usually incapable of conducting the necessary planning for the system, if only because of the demands made on them in terms of time, effort, and energy in the day-to-day operation of the organization. The Council does, of course, serve as the body to which the results of planning should go for consideration and reporting to the board.

There has been a developing trend for school boards and central office administrators to delegate greater responsibility to the principal and his staff for the administration of matters relating to a particular school. It is anticipated that, within the parameters established by the Ministry of Education and the school board for the attainment of the goals of education, the board will make the principal and his staff responsible for planning the educational program to meet the needs of the community served by the school. Since it is at the school level that the greatest opportunity exists for involving parents, students, community organizations, and the general public in educational planning, the school staff will have to be knowledgeable about planning procedures to enable them to work with these groups. It will be the duty of the board to make certain that the necessary expertise is available, preferably among the membership of the staff, to enable the school to work effectively with its constituents. Where a school system is too small to include on its staff personnel with the necessary expertise in planning, this service ought to be available to it from qualified personnel in the Regional office of the Ministry of Education.

WE RECOMMEND,

(4) THAT THE MINISTRY OF EDUCATION APPOINT TO THE PLANNING UNIT A DIRECTOR OF STATURE WITH THE BROADEST POSSIBLE PREPARATION AND EXPERIENCE IN EDUCATION SUPPLEMENTED BY TRAINING AND BACKGROUND IN THE FIELD OF EDUCATIONAL PLANNING AND THAT THE DIRECTOR HAVE ON STAFF HIGHLY COMPETENT PERSONS WITH EDUCATIONAL PLANNING BACKGROUND FROM THE FIELDS OF EDUCATION, ECONOMICS, SOCIOLOGY, FINANCE, DEMOGRAPHY, STATISTICS, AND RESEARCH, WITH PROVISION FOR OTHER SUPPORT PERSONNEL AS MAY BE REQUIRED;

(5) (i) THAT THE SCHOOL BOARD ASSIGN RESPONSIBILITY FOR THE PLANNING FUNCTION FOR ITS JURISDICTION TO A SENIOR EDUCATIONAL OFFICIAL WITH PROVISION FOR ADDITIONAL SPECIALIST PERSONNEL WHERE THE SIZE OF THE ORGANIZATION JUSTIFIES SUCH ACTION AND THAT THE PERSONNEL CHOSEN HAVE BACKGROUND IN EDUCATIONAL PLANNING;

(11) THAT THE SCHOOL BOARD ENSURE THAT THE PRINCIPAL AND STAFF OF EACH SCHOOL HAVE THE NECESSARY EXPERTISE AVAILABLE TO THEM TO PERMIT THE STAFF TO GIVE LEADERSHIP IN EDUCATIONAL PLANNING FOR THE COMMUNITY SERVED BY THE SCHOOL, INVOLVING THE OPPORTUNITY FOR THE PARTICIPATION OF PARENTS, LOCAL ORGANIZATIONS, STUDENTS, AS WELL AS PROFESSIONAL STAFF, IN THE DETERMINATION OF GOALS AND EXPECTATIONS FOR THE EDUCATIONAL PROGRAM.

(6) THAT FOR BOARDS WHICH ARE TOO SMALL TO BE ABLE TO ASSIGN RESPONSIBILITY FOR THE PLANNING FUNCTION TO A STAFF MEMBER, THE MINISTRY OF EDUCATION MAKE AVAILABLE IN ITS REGIONAL OFFICES PERSONNEL WHO HAVE COMPETENCY IN EDUCATIONAL PLANNING AND WHO ARE AVAILABLE ON REQUEST TO ASSIST BOARDS AND SCHOOLS IN THE PLANNING PROCESS.

It may well be difficult or even impossible to designate present staff or to recruit immediately new staff with the necessary qualifications in educational planning to meet the requirements for integrated, comprehensive planning recommended by the Committee. If this should prove to be the case, steps should be taken to provide the opportunity for staff, selected for competence and successful experience in their specialist fields, to secure further qualifications in educational planning by attendance at courses and participation in programs in this field. The Ontario Institute for Studies in Education has developed programs at the Master's and Doctor's level that may be taken on a full-time or part-time basis.

<u>WE RECOMMEND</u>,

(7) THAT THE MINISTRY OF EDUCATION AND SCHOOL BOARDS PROVIDE THE OPPORTUNITY FOR THEIR PERSONNEL WHO - ALTHOUGH SELECTED ON THE BASIS OF THEIR QUALIFICATIONS, EXPERIENCE, AND COMPETENCY IN THEIR SPECIAL FIELDS FOR SPECIAL RESPONSIBILITY IN THE PLANNING AREA - LACK BACKGROUND IN EDUCATIONAL PLANNING TO ATTEND COURSES IN THE

DEPARTMENT OF EDUCATIONAL PLANNING AT THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION OR IN OTHER INSTITUTIONS PROVIDING SUCH PROGRAMS.

(d) Information

The Ministry of Education, school boards, and schools do not have available to them the statistics and other information necessary to permit sound educational planning. In some cases, the data are inadequate; in others, statistics are not assembled in a form that can be used to advantage; and in still others, essential information is not collected. There is often lack of consistency in the presentation of the same material in different documents and at different times. There is no systematic plan for the dissemination of information to school boards and schools.

It is our view that a greatly improved educational information system is necessary to assist the decision-makers. The proposed Planning unit should determine in consultation with the redesignated Research Section and the Statistics Section the information to be collected from school boards and schools, the form in which the statistics are to be gathered, the times when they are to be requested, the compilation to be made of them, and the provision for distribution of the results.

WE RECOMMEND,

(8) THAT THE PROPOSED PLANNING UNIT IN CONSULTATION WITH THE AGENCIES RESPONSIBLE FOR THE COLLECTION, COMPILATION, AND DISTRIBUTION OF STATISTICS AND OTHER INFORMATION DETERMINE THE NATURE OF THE MATERIAL TO BE COLLECTED, THE FORM IN WHICH IT IS TO BE PROVIDED, THE TIMES WHEN IT IS TO BE REQUESTED, THE FORMAT IN WHICH IT WILL BE COMPILED, AND THE PROCEDURES BY WHICH THE RESULTS WILL BE DISTRIBUTED.

B. Population and Enrolment Forecasts

From time to time, the Demographic Studies Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, releases short-term and long-term population projections. These documents are not complete for the province and for local jurisdictions for a specific period, and they are usually not in a format that makes for ready accessibility or distribution. At the present time, there is a duplication of effort by numerous agencies in the area of population forecasting.

There ought to be one "official" forecast of population for the province as a whole and others by counties, districts, and other municipal units, based on the provincial figure. Responsibility for the development of these forecasts ought to be assigned to a special group in a central agency in one Ministry of government. The forecasts resulting from the work of this agency ought to be made available annually to the Ministry of Education and they should form the basis on which enrolment forecasts are developed.

WE RECOMMEND,

(9) THAT THE STUDY AND FORECASTS OF POPULATION FOR THE PROVINCE AND BY COUNTY, DISTRICT, AND OTHER MUNICIPAL UNITS, BE MADE THE SPECIFIC RESPONSIBILITY OF A SPECIALIZED GROUP OF PROFESSIONALS IN A CENTRAL AGENCY WITHIN ONE MINISTRY OF GOVERNMENT, THAT THE POPULATION FORECASTS BE ISSUED ANNUALLY, THAT THEY BE COMMUNICATED PROMPTLY TO THE MINISTRY OF EDUCATION, AND THAT THEY FORM THE BASIS FOR THE DEVELOPMENT OF ENROLMENT FORECASTS.

Enrolment forecasts are now made by the Statistical Analysis Section, Planning and Research Branch, Ministry of Education, and by the Department of Educational Planning in The Ontario Institute for Studies in Education, under contract with the Ministry of Education. The former prepares forecasts on a provincial basis and the latter, by counties, districts, and defined cities

as well as for the province as a whole. The contractual arrangement between the Ministry of Education and The Ontario Institute for Studies in Education is for one year at a time with the possibility of renewal at the expiration date. This arrangement does not provide assurance that support will be available long enough for the Institute to undertake studies on a continuing basis, nor does it provide the Ministry with any guarantee that it will have forecasts available beyond one year for the counties, districts, and defined cities. To have two sets of enrolment projections, one developed by the Ministry itself, and a second developed by the Institute with funds provided by the Ministry tends to create confusion. It also involves some duplication of time, effort, and money.

It would be preferable to have one set of forecasts developed by the Institute under contract with the Ministry of Education. The contract ought to be for a minimum of five years so that provision would exist for continuity of the work. The set of projections developed by the Institute should become the official expectation of enrolment growth, subject to any amendments agreed upon by the Institute and the Ministry.

WE RECOMMEND,

(10) THAT THE MINISTRY OF EDUCATION ENDEAVOUR TO CONTRACT WITH THE DEPARTMENT OF EDUCATIONAL PLANNING IN THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION FOR THE INSTITUTE TO DEVELOP ANNUALLY, FROM THE POPULATION FORECASTS AND OTHER INFORMATION AND DATA PROVIDED BY THE MINISTRY OF EDUCATION AND FROM OTHER RESOURCES AVAILABLE TO THE INSTITUTE, FORECASTS OF ENROLMENT IN THE ELEMENTARY AND SECONDARY SCHOOLS FOR THE PROVINCE AS A WHOLE AND BY COUNTY, DISTRICT, AND OTHER MUNICIPAL UNITS; THAT THE CONTRACT FOR THIS SERVICE BE FOR A MINIMUM PERIOD OF FIVE YEARS TO PERMIT CONTINUITY IN THE WORK; AND THAT THE FORECASTS DEVELOPED BY THE INSTITUTE BECOME THE OFFICIAL EXPECTATION OF FUTURE ENROLMENTS SUBJECT TO ANY MODIFICATIONS THAT MAY BE MUTUALLY ACCEPTABLE TO THE INSTITUTE AND THE MINISTRY.

At the present time there is no regular and systematic distribution of enrolment forecasts to school boards. While the Ministry of Education makes available its own projection, this is for the province as a whole and is of little assistance to any one jurisdiction in so far as its particular situation may be concerned. The Ontario Institute for Studies in Education releases its own studies, which are available to school boards. Rarely are the population projections, on which enrolment forecasts are based, seen by school authorities. Even less often are the influences on population of live births, birth rates, fertility rates, mortality, and migration understood and taken into account by those responsible for educational planning. For this reason we have included in this report some material on the impact of each of these factors on population, and as a result on enrolment, with the hope that their significance will be appreciated to a greater degree and that they will be fully considered in the development of enrolment forecasts.

All school authorities should have available to them the population projections, the enrolment forecasts, an analysis of the factors that influence each, and an explanation of the interrelatedness of the two components.

WE RECOMMEND,

(11) THAT THE MINISTRY OF EDUCATION ACCEPT RESPONSIBILITY FOR DISTRIBUTING ANNUALLY TO ALL SCHOOL BOARDS THE POPULATION PROJECTIONS PROVIDED TO IT BY THE CENTRAL AGENCY, THE ENROLMENT FORECASTS PREPARED FOR IT BY THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION, AND AN EXPLANATION OF THE INTERRELATEDNESS OF THE TWO.

School boards have had a tendency to predict their future enrolments on the basis of a linear projection of existing enrolments. For a considerable time during the expansion period of the 1950's and early 1960's, the relationship between the projection on this basis and subsequent experience was close enough that the procedure seemed satisfactory and was continued beyond its period of relevancy. The result was that projections of the need for new

school accommodation in many jurisdictions were greatly in excess of the levels that more sophisticated enrolment forecasts would have justified. Similarly, other parts of the school system were expanded when better analysis of population and enrolment would have dictated greater prudence, caution, and control.

Now that the number of people to be educated is declining it is essential to give detailed consideration to all the factors that may influence population and enrolments at the local level. Projections made available by the Ministry of Education must be analysed to determine whether recent developments in the local areas necessitate adjustments. To assure the same basis for decision-making in the Ministry and at the local level, any adjustments to the original forecasts should be submitted to the Ministry by the school board together with full explanation of the necessity for the changes made. When agreement is reached on any proposed revisions, the forecast should become the basis for forward planning by the board in all matters where enrolment is a consideration.

WE RECOMMEND,

(12) THAT EACH SCHOOL BOARD ANALYSE FOR ITS JURISDICTION THE POPULATION AND ENROLMENT FORECASTS PROVIDED TO THE BOARD BY THE MINISTRY OF EDUCATION, THAT THE BOARD MAKE ANY ADJUSTMENTS WHICH IT DEEMS NECESSARY IN THE LIGHT OF ITS INTIMATE KNOWLEDGE OF LOCAL AND RECENT DEVELOPMENTS IN ITS AREAS, THAT THE MINISTRY OF EDUCATION BE ADVISED OF THE ADAPTATIONS MADE AND THE REASONS FOR THEM, AND THAT THE REVISED FORECASTS FOR THE BOARD'S JURISDICTION BECOME THE BASIS FOR ITS FORWARD PLANNING IN SO FAR AS ENROLMENT MAY BE A FACTOR IN THAT PLANNING.

It is important that the Ministry of Education make available to the central agency responsible for population projections any information received from

each school board regarding developments at the local level that may influence population trends within the school board's jurisdiction. Similarly, the Ministry of Education should provide the Department of Educational Planning of The Ontario Institute for Studies in Education with any information it may receive about enrolment trends at the local level.

WE RECOMMEND,

(13) THAT THE MINISTRY OF EDUCATION COMMUNICATE TO THE CENTRAL AGENCY RESPONSIBLE FOR THE DEVELOPMENT OF POPULATION FORECASTS ANY INFORMATION THAT IT MAY HAVE RECEIVED FROM SCHOOL BOARDS THAT MAY HAVE IMPLICATIONS FOR FUTURE POPULATION FORECASTS; THAT THIS INFORMATION BE CONSIDERED BY THE CENTRAL AGENCY ALONG WITH REPORTS AVAILABLE TO IT FROM OTHER SOURCES; AND THAT THE MINISTRY INFORM THE DEPARTMENT OF EDUCATIONAL PLANNING OF THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION, OF ANY DEVELOPMENTS LIKELY TO HAVE AN IMPACT ON ENROLMENTS AT THE LOCAL LEVEL SO THAT SIMILAR CONSIDERATION CAN BE GIVEN TO THEM WHEN REVISED ENROLMENT FORECASTS ARE BEING DEVELOPED.

C. School Board Planning and Municipal Councils

Each school board has responsibility for planning accommodation to meet the needs of pupils within its jurisdiction. Most boards embrace within their geographic area a considerable number of municipalities. Each municipal council has authority to determine development within its boundaries, including the approval of new subdivisions, redevelopment of existing areas, construction of sewers, water mains, and the like. The two elected bodies - school boards and municipal councils - have responsibility for providing most of the services for local communities. Although many of the activities of each body - particularly their planning decisions - have implications for the other, all too often there is surprisingly little communication between them.

If there is to be sound planning by either the school board or the municipalities in the same educational jurisdiction, it is imperative that means be found for each body to inform the other of its activities wherever mutual interests exist. Prior knowledge of the information possessed by either body could have a marked effect on decisions of the other. The most common area of concern is probably in the recommendations that come from the Planning Board to the municipal council since development of new subdivisions, for example, can have a considerable impact on the amount of school accommodation to be provided because of increased enrolment. Because of the lead-time involved in providing additional facilities, there is an urgent and continuing necessity for school boards to be informed well in advance of proposed municipal development.

WE RECOMMEND,

(14) THAT THE SCHOOL BOARD AND THE MUNICIPAL COUNCILS WITHIN THE BOARD'S GEOGRAPHIC AREA MAKE PROVISION FOR COMMUNICATION AND CONSULTATION WITH EACH OTHER ABOUT THEIR PLANS AND DECISIONS WHENEVER COMMON INTERESTS MAY BE INVOLVED.

(15) THAT THE PLANNING ACT BE AMENDED TO PROVIDE FOR REPRESENTATION OF THE SCHOOL BOARD ON PLANNING BOARDS WITHIN THE SCHOOL BOARD JURISDICTION AND THAT, WHERE THE NUMBER OF MUNICIPALITIES IS SO GREAT THAT SUCH REPRESENTATION MAY NOT BE POSSIBLE, PROVISION BE MADE FOR CLOSE LIAISON AT THE OFFICIAL LEVEL WITH REGULAR REPORTS TO THE SCHOOL BOARD.

In an increasing number of educational jurisdictions where there are common or overlapping attendance areas served by a Roman Catholic Separate School board and a Public School board, the two boards have made some progress towards a cooperative assessment of the services to be provided by each of them. In a few cases, there has been a sharing of accommodation, a joint effort in the development of programs that could not be provided by either board by itself, or a utilization of some staff on a shared basis. These steps have been

taken by the voluntary action of the boards concerned. We find these voluntary efforts to be worthy of special commendation.

It is our view that there are benefits to be realized by both boards in the same attendance area through cooperative action in the planning of programs involving the interests of the two boards. Such cooperation can be achieved without infringement by either board on the rights, responsibilities, and autonomy of the other. Its achievement depends to a considerable extent on the goodwill, sincerity, and leadership of trustees and officials of the respective boards. Where there is mutual respect and a genuine desire to work cooperatively, plans can be developed that will result in mutual advantage to children in both systems and in the best use of scarce financial resources provided by all the taxpayers.

WE RECOMMEND,

(16) THAT THE ROMAN CATHOLIC SEPARATE SCHOOL BOARD AND THE PUBLIC SCHOOL BOARD IN AN AREA WHERE THERE ARE COMMON OR OVERLAPPING ATTENDANCE AREAS BE ENCOURAGED TO CONSIDER THE VALUE OF VOLUNTARILY ESTABLISHING A COOPERATIVE JOINT COMMITTEE TO STUDY PLANNING MATTERS OF MUTUAL INTEREST AND CONCERN; THAT REPRESENTATION ON, AND THE STRUCTURE OF, SUCH A COMMITTEE BE DETERMINED BY CONSULTATION BETWEEN THE TWO BOARDS; THAT EACH BOARD GIVE CONSIDERATION TO THE TERMS OF REFERENCE FOR THE COMMITTEE AND WHEN AGREEMENT IS REACHED THEY BE ADOPTED BY EACH BOARD; AND THAT ANY AGREEMENT OF THE JOINT PLANNING COMMITTEE BE REPORTED TO EACH BOARD BY ITS REPRESENTATIVES FOR THE BOARD'S CONSIDERATION AND ANY ACTION IT MAY WISH TO TAKE.

To a considerable degree school boards have freedom to plan the educational programs, facilities, and services within their jurisdictions. This freedom is highly desirable, since boards are more knowledgeable about their local areas than any central agency could possibly be. There are, however, some

areas where the Ministry of Education has a legitimate interest and where consultation and agreement between the two levels of government are essential as, for example, in the amount of school accommodation to be provided by a board. But the number of these areas ought to be kept to a minimum. They ought not to extend to the point where the Ministry of Education determines programs to be offered through designated grants; otherwise, the freedom and the responsibility of the school boards are eroded and undermined. The function of the Ministry should be to provide resources through grants and personnel to assist boards to operate the programs that they have established. In the planning area, it is the responsibility of the Ministry to indicate avenues for development, possibilities inherent in different choices, and alternatives by which goals may be realized. The Ministry should help establish direction but avoid the issuing of directives. The choices for action should be left to the elected school boards to the maximum extent possible. Only through the assumption of this responsibility can boards be held accountable for the programs they offer.

WE RECOMMEND,

(17) THAT RESPONSIBILITY FOR EDUCATIONAL PLANNING AT THE LOCAL LEVEL BE A FUNCTION OF SCHOOL BOARDS; THAT THE MINISTRY OF EDUCATION EXERCISE ITS LEADERSHIP ROLE THROUGH DISSEMINATION OF INFORMATION ABOUT POSSIBLE ALTERNATIVE COURSES OF ACTION, PROBABLE OUTCOMES AS A RESULT OF PARTICULAR CHOICES, AND THE AVAILABILITY OF RESOURCE PERSONNEL TO ASSIST BOARDS WHO REQUEST HELP IN THE ATTAINMENT OF THEIR GOALS, THEREBY INDICATING DIRECTIONS FOR THE EDUCATIONAL ENTERPRISE WITHOUT DIRECTING IT; AND THAT THE FREEDOM OF SCHOOL BOARDS BE EXTENDED SO THAT THEY HAVE RESPONSIBILITY FOR EDUCATION IN THEIR JURISDICTIONS AND CAN BE HELD ACCOUNTABLE FOR ITS EFFECTIVENESS.

PART I
PLANNING

CHAPTER 2
PLANNING IN EDUCATION

The relatively stable characteristics of our society prior to World War II permitted the school to pursue its rather tradition-oriented programs without too great a concern that education would become obsolete or irrelevant in relation to the needs of either the society or the individual as they were perceived by most people at that time. The rate of change in the society was slow enough that necessary adaptations in the school system could take place at a leisurely pace and without major dislocations. Since the mid-1940's, major developments in science and technology and their impact on our social, political, and economic institutions have resulted in the creation of a new way of life constantly and speedily being reconstructed in response to the forces of change. The resulting problems for education and our educational organizations, long considered among the most conservative in our society, have been substantial and difficult of resolution. The future will require an emphasis on the qualitative aspects of education instead of quantitative expansion; on long-range or multi-year planning instead of reaction to circumstances as they develop; on the response of education to circumstances in the social and economic areas instead of independent action or inaction; and on provision for innovation and experimentation as an integral part of the educational organization instead of reliance on existing programs or periodic modifications of them to meet the needs of young people.[1] The last ten years have seen an increasing emphasis on the necessity for a rational plan that takes into account existing circumstances, available information, forecasts of possible developments, judgments about the nature of society in the future, and the need for a high degree of adaptability to meet new circumstances and conditions as they emerge. We believe that the time has come to develop comprehensive and orderly plans for education in Ontario at the provincial level, within the school system jurisdiction, and at the individual school level.

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[1] Educational Planning: A World Survey of Problems and Prospects, UNESCO, Paris, 1970, pp. 9-23.

Quantitative Expansion

During the rapid expansion in education in Ontario following World War II, the emphasis was on quantitative matters such as the provision of more schools and classrooms, more teachers, more transportation, more supplies, and more equipment. The results are documented in other Interim Reports of the Committee. It is sufficient here to refer to the achievements that enabled Ontario in a period of twenty-five years to provide for an increase in elementary school enrolment from 539,012 in 1946 to 1,456,840 in 1971 and in secondary school enrolment from 123,846 to 574,520 during the same period. Nothing should be allowed to detract from the magnitude and importance of this accomplishment. But it would be wrong to conclude that the achievements of this period were the result of any definite plan or plans based on accurate information, long-range forecasts of needs, or advance allocation of resources for a period of years to meet the requirements of quantitative expansion.

Rather, the demands created by the increases in the number of students were so great that the Department of Education and school boards were hard pressed to meet the needs even when expansion was carried out at the fastest rate possible. To the extent that planning took place, it was on a very short-term basis, dealt almost exclusively with quantitative factors, and was conducted without the benefit of predetermined overall goals. It was perhaps inevitable that these conditions would exist given the fact that in the late 1940's and in the 1950's there had been little, if any, experience in planning in education or in most other areas of the social services. Once caught up in the expansion program, trustees and administrative and supervisory personnel were so busy finding solutions to current problems that they had little time or energy to devote to the situation as it might develop at some time in the future.

Qualitative Aspects

With the end of the period of expansion already reached at the elementary level and clearly in sight at the secondary level, the time is appropriate for a new emphasis on qualitative aspects of education. Attention will still have to be

given to quantitative factors because they can have an important effect on the quality of education, but they ought now to take their place as significant contributors to the attainment of high quality education and not as substitutes for efforts to achieve that goal. The tendency in the expansionary period was to produce more education of the kind already in existence, although there were some notable innovations along the way. Now, educational planning must be concerned with the development of programs designed to meet the needs of the widest possible range of individual differences among children as represented, for example, by intelligence, physical condition, mental health, motivation, home background, and economic circumstance. Fortunately, the possibility of improving the quality of education is enhanced by the availability of more and better educated entrants to the professional schools of education. But this circumstance alone will not ensure a better quality of education. The need is for educational planning that incorporates in an integrated way such areas as teacher education, curriculum development, teaching methods and procedures, materials, and evaluation.

One of the basic problems of education at present is that it has tended to perpetuate content, methods, and practices that may have served reasonably well the elitest school population of an earlier day but are inadequate or inappropriate for an educational system dedicated to the concept of providing maximum educational opportunity for all its children. The results of the school's efforts cannot be judged by standards, considered satisfactory years ago, that do not take into account the changed circumstances that prevail in society now or will be applicable in the future. It is, for example, no longer adequate to judge a student almost solely on his knowledge of a specific body of content in history. While the importance of factual information is not to be minimized, the crucial criteria in any assessment of the student's progress may include the extent of the development of his skills in locating and interpreting historical information; his ability to relate historical developments to geographic, economic, and political factors; and his pursuit of historical interests in the community and beyond. There is now a need for a dynamic educational system that builds into its planning provision for innovation and experimentation. The assumption ought always to be that the present

level of operation is inadequate and that, unless changes are deliberately planned, the educational program will be less and less relevant to the dynamic society it purports to serve.

The Importance of Goals

To be sound, planning must so function that it encompasses all activities leading to the attainment of predetermined goals. It must be a continuing process based on the application of principles of scientific investigation to the solution of problems. As a first imperative, it requires a clear statement of goals defined in advance. It involves the development of alternative programs by which the goals and objectives may be realized, assessment of the implications of the various possibilities in relation to the financial and personnel resources available, selection of the most promising and realistic courses of action, establishment of targets to be achieved within specified time limits,[2] and provision for evaluation of the effectiveness of the courses of action adopted.

To set the goals of any educational enterprise is a difficult task for either the central authority, the local school system, or the individual school. In practice, the tendency is to proceed with educational planning before exact goals have been determined. Where this happens or where there are inconsistencies or lack of clarity about goals, any planning that may take place is likely to emphasize quantitative factors almost without regard for significant educational purposes. Thus it is, for example, that the provision of schools and classrooms receives priority over the planning of programs that are to be conducted in them, and that the purchase of equipment precedes a full consideration of program objectives and the probable effectiveness of the equipment in attaining those objectives. Or it may be that in the absence of a clear statement of goals against which to measure the desirability of a particular action, programs are introduced because of pressures from special interest groups or because of the "band wagon" popularity of the latest but often untested innovation, without regard for either their contribution to the attain-

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[2] Ibid., p. 12.

ment of established goals or their priority among the other needs of the school system or the individual school. The result of such *ad hoc* decision-making is that the educational system may be buffeted by a wave of pressure in one direction at one moment and by a second wave in another direction at the next moment. Without a compass to give direction to a known port, the educational ship drifts about with wasteful inconsistency, causing confusion, chaos, conflict, and dissatisfaction among all those involved.

The absence of a clear statement of goals has other implications. The provincial system, the local school system, or the individual school may perpetuate existing unsatisfactory practices because these are not called into question by assessment against criteria represented by accepted goals. The public will tend to be critical of practices that it does not understand or that it had no part in determining. Since decisions have to be made even if goals have not been established, it becomes easy or even necessary for staff members or groups to set their own unstated goals for the school system or the school - with all that that implies in terms of inconsistent direction, undemocratic control, chaotic administration, and progression from crisis to crisis.

School trustees have traditionally shunned the more esoteric and philosophical dialogue necessary to arrive at goals for the educational enterprise. They have tended to favour involvement with problems of a quantitative or of a "practical" nature more closely related to their background of experience in other endeavours. The reluctance of trustees to emphasize the importance and determination of goals is responsible for much of the confusion that exists about "policy" and "administration". The result is that school trustees often become involved in the minutiae of administration instead of leaving those matters to the staff employed for that purpose. At the same time, because policy in relation to goals has not been developed by the board to guide it or its officials, the latter are often put in the position of having to make policy decisions. The result is, ironically, but inevitably that trustees resent assumption of their prerogative in the policy field. The solution of this problem does not lie in continuing dispute about the respective roles of trustees and officials but rather in the decision by the elected representatives

to concern themselves with the determination of educational goals for the school system and the development of policies by which the goals may be achieved. When decisions in these areas have been made, the role of officials in the administration of them will also be clarified. There are undoubtedly school trustees who like to be involved in the details of administrative matters and school administrators who cherish the authority to make policy decisions. The desires of such individuals or groups should not be allowed to stand in the way of the establishment of goals as a basis for sound planning for the educational system.

There are difficulties and problems associated with the definition of goals and objectives for education and the attainment of any consensus about them. But these obstacles do not justify neglect of this important area. Rather, they point up the necessity for a thorough-going analysis to determine the direction in which education ought to be moving and to provide an opportunity for parents, trustees, and educators to clarify and to decide on their expectations of the educational enterprise. Some school systems have recognized the necessity for action in this area and are endeavouring to involve citizen organizations and groups, parents, teachers, supervisors, students, administrators, and the general public in the identification of goals acceptable to them. This procedure is a complicated exercise in social engineering where the state of the art is at best imperfect. The encouraging aspect of the process is that the involvement of all those concerned is likely to provide new knowledge, greater understanding, and increasing expertise that will facilitate the development of a consensus about the goals and objectives of education.

From the beginning of its work, the Committee on the Costs of Education recognized the importance and essentiality of a clear definition of goals. Indeed, its task was made infinitely more difficult by the absence of such a statement. For the Committee to develop a set of goals and objectives of education for the province would, of course, have been presumptuous and inconsistent with its views about the manner by which these ought to be determined. A separate report has, however, been devoted to the subject of goals or aims and objec-

tives and, therefore, the matter is not pursued in this report. In addition, other Interim Reports will deal with aspects of the planning process as they relate to the topics considered in those reports.

Provisions for Planning

In 1967, the then Department of Education, established a small group designated as the "Planning and Analysis Staff". It included an executive officer, an educator, a financial analyst, and two secretarial personnel. The group had a staff relationship with the office of the Deputy Minister of Education. In addition, there was an Executive Committee made up of the Deputy Minister and the three Assistant Deputy Ministers to coordinate the activities of the several divisions and branches of the Department of Education. The Planning and Analysis Staff and the Budget Officer together provided information for the Executive Committee in the implementation of the program, planning, and budgeting system adopted by the government for all its departments. While this organization was a modest beginning in the area of planning and while it made some progress in the establishment of priorities among programs within the Department, it could not be considered an adequate provision for the sophisticated planning required for the new circumstances of the 1970's.

With the reorganization of the Ministry of Education in 1972, the function of the Planning and Analysis Staff was incorporated in the new Planning and Research Branch that has three sections designated Research, Statistical Analysis, and Planning. A fourth section, bearing the title "Facilities Planning Liaison", is referred to in the description of functions but is not shown in the organization chart.[3] In 1972-73, the Research Section had a complement of three persons, an Education Officer and two supporting staff. Two other staff were seconded or on contract. While the stated functions of the Section include broad responsibilities such as "Supporting policy determination at all

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[3] General Information on Activities and Terms of Reference, Planning and Research Branch, Ministry of Education, Ontario, Toronto, 1972.

levels within the Ministry",[4] a major preoccupation seems to have been the administration of grants-in-aid for research and the awarding of contracts for research to outside agencies.

In 1972-73, the Statistical Analysis Section was headed by a statistician, with three other statisticians and two support staff making a total complement of six. A major function of the Section is the collection of data through reports submitted by schools and school boards and their compilation for the advice of officials and for inclusion in the annual Report of the Minister of Education. The data are also used in the periodic publication of tables dealing with particular aspects of the educational operation. Occasionally, the Section has prepared forecasts of school enrolment. Other less definite functions are set out in various summaries describing the responsibilities of the Section.

In 1972-73, the Planning Section was headed by a Chief Education Officer supported by one education officer, one program analysis coordinator, four program analysts, two secretaries, and an executive officer. While the functions described in the outlines of the duties of the Section are comprehensive and wide-ranging, the majority of personnel have training only in program analysis. To a considerable extent the activities of the Section are devoted to the analysis of submissions from other branches of the Ministry and their relationship to the program, planning, and budgeting system in effect in government. There is little evidence that the Planning Section has in practice been given the responsibility to develop integrated, comprehensive planning for the Ministry of Education. There may be good reasons for this situation. The Planning Section may not have been in existence long enough to enable it to develop its role. It may be preoccupied with an analytical function that has it commenting on, or reacting to, plans put forward by the many divisions, branches, and sections of the Ministry. It may be that personnel with the required expertise in certain special fields are not represented on the staff and that there is a lack of background of the theory and practice of educational planning on the part of all but

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[4] Activity Information - 1973 Estimates, Ministry of Education, Ontario, Toronto, 1972.

one or two staff members. Whatever the reasons, it is the Committee's judgment that the kind of coordinated, integrated, comprehensive planning required for the attainment of high quality education in the 1970's is not being achieved at the present time.

A considerable number of school boards have made some provision for planning. Most of the larger boards have established an executive council of senior officials to coordinate the functions and activities of the various units of the system. While some of these are attempting to perform a planning role, they are involved for the most part in the solution of immediate problems or in the consideration of day-to-day operations and have little time or energy to devote to long-term possibilities. Other boards have assigned the planning function to a particular branch that may have other duties to perform. In still other jurisdictions, a particular official has been given responsibility for planning. We have been forced to conclude that most boards have no adequate commitment to the kind of planning that we consider essential and to recognize that whatever provisions do exist are inadequate to accomplish the task involved.

There is a growing trend on the part of school boards and school administrators at the system level to delegate some responsibility to the principal and his staff for the planning of the educational program in the community served by the school. Principals are increasingly being given responsibility for administration of matters that were formerly under the direct control of central office staff. It is at the school level that not only professional staff but also community organizations and students can be involved in the determination of goals for, and expectations of, the school. Once the framework, within which the Ministry of Education and the school board are operating is known and once the parameters involved are understood and accepted at the school level, it will be possible and desirable to enlarge the role of the individual school in the interests of quality education.

We believe that comprehensive educational planning is an essential requirement for each of the three levels represented by the Ministry of Education, the local school board, and the individual school. The Ministry of Education carries res-

ponsibility for planning on an overall basis, with each school board responsible for developing its plan within the context of the overall design. Similarly, each school must plan within the framework established by the Ministry and its board. Planning takes place at all three levels in essentially the same way. Each level must take into account the plans of the other two levels if the necessary cooperation and coordination are to be achieved. It should not be assumed that the planning at any level is subordinate to planning at another level. Rather, the emphasis should be on integration of plans designed to achieve goals determined at all three levels.

A Planning Model

Conrad has defined comprehensive educational planning in its simplest form "as the application of a process that tends to coordinate all the component parts and sub-systems of an educational system towards realization of the goals of the total system."[5] In the same article, he states that "Historically, planning in education has been limited to planning the isolated parts - curriculum, buildings, finance, public relations and enumerable others - all directed towards particular goals, which in some magical way was expected to advance the goals of the total system. Often times, respecting the specific objectives of one part of the system results in adverse effects on other parts. Intra-system competition develops; fragmentation and friction arise. The administrator of the total system is expected to coordinate the various parts, but too frequently serves as mediator and referee between the antagonists. A comprehensive educational planning effort can give direction to the total organization, reduce intra-system problems and increase the potential for the total educational system, as well as its parts."

In elaboration of his point of view Conrad has developed a "Comprehensive Educational Planning Model" shown as follows:

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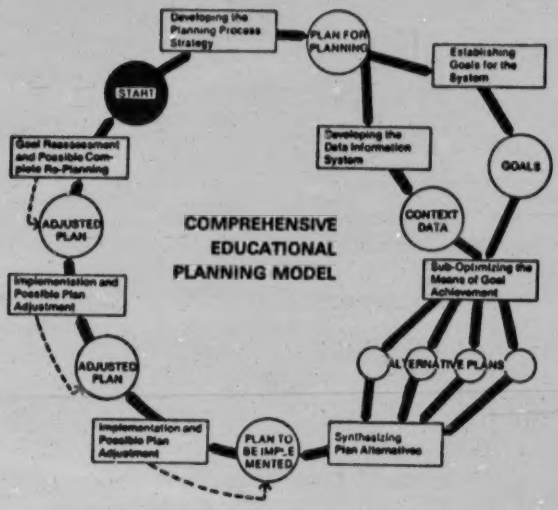
[5]Conrad, M. J., et al., "A Model for Comprehensive Educational Planning," Planning and Changing, Vol. IV, No. 1, Spring, 1973, p. 4.



We did not attempt to delineate a pattern for planning at the different levels since, in our opinion, Conrad's model takes into account all of the essential steps in the planning process at any level. There are, of course, many other models that incorporate in one way or another most of the characteristics of the Conrad model or that add other dimensions in elaboration of it.

Because of the wide variations that exist across the province in size of enrolment, number of staff, extent of administrative services, geographic considerations, and the like, it is inevitable that each organizational unit will have to develop its own planning model to meet its particular circumstances. The plan ought to give direction and purpose to all the activities undertaken as part of the educational endeavour. At the same time, it is important to understand that, whatever the model adopted, provision must be made for flexibility in, and adaptation of, plans to meet current developments and new circumstances. The necessity for adjustments because of changes, for example in the amount of financial resources provided, should not be interpreted as reducing or minimizing the importance of planning. Indeed, the inevitability of changes in eco-

nomic, political, social, and cultural conditions make essential a plan that can be adapted to meet new situations. Then it is possible to make rational judgments about alterations in direction and in selection of priorities. The alternative of an absence of planning leaves the educational enterprise subject to drastic adjustments in response to a variety of pressures without regard for the educational interests of children.

Levels of Planning

To permit implementation of our proposals, we believe that the Ministry of Education should establish a separate Planning unit with responsibility for the development on a continuing basis of an integrated, comprehensive plan for quality education in Ontario in accordance with accepted goals and expectations determined by consensus of those concerned. The proposed Planning unit would replace the Planning Section of the existing Planning and Research Branch and would incorporate other changes proposed in this Report. As a second element in the overall plan, each school board should give first priority to the development of a "plan for planning" within its jurisdiction as an extension of, and consistent with, the planning framework developed by the Ministry of Education, but recognizing the unique characteristics and needs of the local jurisdiction. The third component of the proposal is that the school board should delegate responsibility to each school to plan, within the framework established by the board, the educational program for the community served by the school.

Organization

At the present time, the planning function within the Ministry of Education is assigned to the Planning Section of the Planning and Research Branch, which is a part of the Education Development Division. While the Division is designated "Education Development", it includes three other branches, namely Curriculum Development, Provincial Schools, and Teacher Education and Certification, the latter two branches having a largely administrative role rather than a developmental function. Several other branches with which the Planning Section ought

to have a close working relationship such as Curriculum Services, School Business and Finance, Supervisory Services, Educational Resources Allocation System, Budget Services, and Management Services are in other divisions of the Ministry of Education. They have the status of branches whereas the planning function rests with a sub-unit designated as a section although it is in the Planning and Research Branch. It is difficult, if not impossible, for the existing Planning Section to achieve the perspective, independence, and objectivity that it should have when it is part of the line organization in a particular division reporting through one assistant deputy minister. It is also unrealistic to expect that branches in other divisions will accord to a sub-unit in another division the attention and cooperation that are required. The present arrangement, in the judgment of the Committee, is inappropriate to permit the kind of planning we envisage. If the planning is to be integrated and comprehensive, it must embrace all functions of the Ministry. To achieve the kind of cooperation essential to its success, the Planning unit should be established as a separate branch in a staff relationship with the office of the Deputy Minister of Education.

The Research Section of the existing Planning and Research branch devotes much of its time to the administration of grants-in-aid for research studies proposed by outside agencies and to the award of contracts for research that the Ministry of Education wishes to have undertaken by outside bodies on its behalf. There is no suggestion that the Research Section ought to undertake its own research: it has not the staff; moreover, to provide personnel for this purpose would be an unnecessary duplication of the provisions for research already in existence in the universities and in the private sector. The other functions assigned to the Section are rather nebulous and only indirectly related to research. Consequently, it seems that the Section has an inappropriate title and that it should be replaced by a name more properly descriptive of the functions it performs.

The Statistical Analysis Section is involved in the determination of data to be collected, in the format to be used for collection, in the compilation of the statistics reported, and in the analysis of the data for the advice of of-

ficials. The word "Analysis" in the title of the Section seems superfluous since it might well be assumed that analysis of statistics would be a function of the Section.

To a considerable extent the functions of the two sections are administrative in nature. Since these functions would still have to be performed, the sections might well continue within the line organization in the Education Development Division and be redesignated as the Research and Statistics Branch. If a more appropriate name can be found for the activities at present included in the Research Section, it could replace the word "Research" in the Branch title.

There should be no misunderstanding about the role of the Planning Branch as recommended and that of the continuing Research and Statistics Branch. The former would be involved in overall comprehensive planning for the Ministry of Education in the Ministry's role as the central authority and in its relationships with its Regional offices and school boards. The Planning Branch would have to decide, for example, the research studies that it would want undertaken for its purposes. It would then request the Research Section in the Research and Statistics Branch to make provision for the research to be conducted. The mechanics by which the research would be undertaken would be arranged by the Research Section in consultation with the Planning Branch. Similarly, the Planning Branch might wish to have additional statistics and other information secured for it from school boards or schools. It would request the Statistics Section of the Research and Statistics Branch to take the steps necessary to secure the data. In this manner, the Planning Branch would keep itself free of administrative detail so that it could devote its time to its real purpose of planning.

Staffing

To function successfully, the Planning unit in the Ministry of Education will have to be staffed by personnel who are highly competent in the special fields they represent and thoroughly familiar with the theory and practice of educational planning. Because it is the intent that the Planning unit will go much

beyond mere program analysis, its staff will have to include personnel who represent at least each of the fields of education, economics, sociology, finance, demography, statistics, and research. The head of the Planning unit should be an educator of the highest stature who has had experience in curriculum, supervision, administration, and finance, supplemented by a background in the theory and practice of educational planning. Because the state of the economy and its prospects have an important bearing on so many aspects of educational development, we are convinced that the staff must include a first-rate economist. A continuing assessment of the general economic climate as determined by an analysis of the various economic indicators, such as the gross national product, gross provincial product, provincial income, personal income, employment and unemployment levels, wages and salaries, consumer price index, residential and non-residential construction, levels of taxation, revenues from taxation, debt per capita, and many others, is of vital importance to the planning process.

The need for expert advice also exists in the areas of social influences and social development, where the impact on educational practices and institutions is of increasing importance. The insights of a capable sociologist are needed for complete interpretation of such matters as the recent increase in the number of students leaving the secondary school, the community use of schools, the effect of welfare provisions, the movement of families from rural to urban areas, and the job prospects for graduates. The importance of assembling and analysing data based on demographic principles is demonstrated in considerable detail in Part II of this Report. The absence or inadequacy of enrolment forecasts in the past and the necessity for better information-collecting in the future make the inclusion of a person trained in demography essential to the work of the Planning unit. The case for the appointment of representatives from the areas of finance, statistics, and research should be obvious. It may well be that competencies in two special fields can be found in one person, for example, in demography and statistics, or in economics and statistics, thereby reducing the number of personnel required in the Planning unit.

Creation of the Planning unit will necessitate the allocation of financial re-

sources to enable the Ministry of Education to secure highly competent personnel in the disciplines cited. If planning is given high priority, the necessary funds can be secured by reallocation of funds now provided within the Ministry for less essential programs. The existence of the Planning unit should ultimately mean that it will not be necessary to appoint so many consulting agencies with the result that substantial financial savings will be realized. In any case, the cost of the Planning unit will be insignificant compared with the cost of non-planning, as past events have demonstrated.

It may also be that potential staff members, who have competence in their special fields, lack background in the theory and practice of educational planning. If so, provision should be made for persons of potential to acquire the necessary training or experience. In the academic area, the extensive programs in educational planning now provided at the graduate level by The Ontario Institute for Studies in Education have removed former limitations.

Information System

Essential to success in planning is the ready availability of accurate and comprehensive information in a form that permits its use in the planning process. All too often the major impediment to sound planning and decision-making is the inadequacy or absence of essential data. In the course of its work, the Committee has become aware of deficiencies in much of the existing information and of the almost complete lack of any accurate data in many important areas of decision-making. As a result of this situation, the Committee found it necessary to develop much of the background material on which it could make judgments about the topics with which it dealt. The results are provided in several of our reports and may serve as a starting point for data collection in the future. But some provision must be made to ensure consistency of criteria and format that makes possible comparisons from year to year and between jurisdiction and jurisdiction. Lack of accurate and comparable data on teacher:pupil ratio, class size, and number of teaching periods per teacher, for example, have led to countless arguments and emotional reactions about teaching load. This is only one of many areas where agreement about definition of terms and the provision of accurate data

based on accepted criteria would raise the discussion of the subject to a rational level with some hope that solutions to problems associated with these matters could be achieved.

Concern about increasing the demands on the schools for information should not be allowed to deter responsible authorities from the collection of essential statistics to be used in planning. If the provision of the kind of information required means that the schools will have to complete more forms, then they should do so. In our judgment, proper procedures for the collection of the necessary information should ensure that little or no additional time is required of teachers since much of the data can be compiled by non-teaching staff at the school and system levels. The deficiencies to which we have referred exist at the levels of the Ministry of Education, the school system, and the individual school. There is also evidence that the data now collected by a myriad of agencies do not often reach the personnel responsible for planning. Even in those cases where the information is received, it is often not analysed and interpreted accurately. For example, the trends that were evident in the population statistics, number of live births, birth rates, fertility rates, mortality rates, and migration should have been evidence enough to justify a drastic reduction in the number of new classrooms planned for the late 1960's and the 1970's. Instead, the Ministry of Education and most school boards in 1970 were still planning to continue school construction as if enrolment increases were going to continue at their previous high levels. Indeed, there is evidence that the expansionist attitude still persists at the time of the writing of this report in late 1973. The commitment of financial resources to unneeded school accommodation has already had an impact on the choices available to school boards for programs of higher priority and illustrates once more the need to plan, on a comprehensive and integrated basis, all aspects of the educational enterprise.

Provision should be made to collect data from each of the Ministry of Education, the school system, and the school, and to communicate them promptly to the other two. Decisions about the information to be gathered should be based on the needs of the planning process. Criteria that information should meet

will, naturally, include meaningfulness, currency, pertinancy to the analyses to be undertaken, and comparability from jurisdiction to jurisdiction and from year to year. The material ought to go beyond that associated with existing programs so that alternative possibilities can be considered. Forecasts and the assumptions on which they are based should be provided for up to five to ten years. They should be updated annually or when significant influences occur that may alter them.

It is perfectly evident that these criteria are not being met by the present provisions for the collecting, analysing, and reporting of educational information. How else can the conflicting views about the costs of education be explained? How else does one account for the inadequacy of the information provided to parents and taxpayers about the costs of particular programs in the schools? To convey information about such matters, it is no longer adequate to show the sources and amounts of revenue and the expenditures classified among six or seven major headings illustrated by a "pie" chart. The need is for a more refined and sophisticated reporting procedure designed to achieve real understanding of the whole educational operation. The assumption, or even the fact, that many people will not be interested in the reports prepared and disseminated by the Ministry of Education, school boards, and schools, in no way relieves these bodies from the obligation to be accountable for the resources provided to them. While there have been some real efforts made to explain the educational enterprise and to improve the quality of the reporting to the public, the great majority of the documents, including the latest Report[6] of the Minister of Education, are inadequate and sterile. Their quality almost ensures that the claim of lack of interest on the part of the public will be self-fulfilling.

The urgent need for a modern information system demands a complete review of the present provisions for data gathering by the Ministry of Education, within school systems, and by individual schools. Coordination among the three levels,

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[6] Report of the Minister of Education to the Legislative Assembly of Ontario, 1972, Queen's Printer and Publisher, Toronto, 1973.

to ensure that the Ministry of Education secures information for its purposes, can be arranged by the collecting agencies after consultation with the proposed new Planning unit. Each board requiring additional information can provide for coordination among the schools under its jurisdiction. The review should be conducted in the light of the goals of education identified and accepted at each of the three levels and in full recognition of the essential need for an integration of the efforts of all three levels.

Population Projections

Without in any way wishing to minimize the importance of information about the qualitative aspects of education, we must recognize that measures of quantitative growth are also of significance in any overall plan and that the two must be considered together. Because population is the most important indicator of the need for quantitative expansion in education, it has been given special emphasis in this report. The factors that determine population, such as live births, birth rates, fertility rates, mortality, and migration, will be described in later chapters as the basis for determining enrolment. The description of the impact of each factor on population is not intended as a definitive statement about its contribution to demographic influences but as a simple indication of its usefulness in a more accurate determination of population and, therefore, of enrolment.

The Demographic Studies Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, has published population projections for Ontario for several years. The latest reports are Ontario Short-Term Population Projections 1971-1986, January, 1973, and Ontario: Population Projection by Counties, 1966-2001, by 5 Year Age Groups and by Special Age Groupings, March, 1970. While the publications are helpful, they are not issued on a consistent time pattern, are often not related to each other, and are not always in a form that permits widespread distribution to possible users. Because of the specialized work involved in the preparation of these reports and the necessity to have a reliable forecast of population trends as a basis for planning in all governmental agencies, provision should be made for a central agency.

To be effective, the agency must be staffed by highly qualified personnel. It must have access to information about developments and decisions by all Ministries of the provincial government; by public bodies such as municipalities, educational institutions, corporations; by Federal government agencies such as Statistics Canada; and international agencies represented by the Organization for Economic Cooperation and Development (OECD), and the United Nations Educational, Scientific, and Cultural Organization (UNESCO). It should also maintain liaison with, and monitor the work of, research-oriented institutions such as universities and other research bodies and organizations. To avoid duplication in time, effort, and money, one agency of government ought to be responsible for producing population projections on which all ministries will base their planning.

Individual units of government may have a tendency to develop their own population projections or to adapt population projections developed centrally to meet what they believe are their particular needs. These practices, in so far as they may relate to other ministries, are not within our terms of reference. We are, however, convinced that the Ministry of Education should adopt the projections provided by the central agency. If the population projections are considered inadequate for any reason, the remedy lies in consultation with the central agency to correct the deficiency and not in the development of another set of projections by a particular Ministry for its own purposes. Provision ought to be made for the kind of liaison that will enable all ministries to contribute to, and understand fully, the basis of the forecasts.

The kind of central agency that meets the criteria outlined above does not at present exist in government. It may be that the Demographic Studies Section of the Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, is the nucleus around which an efficient and effective program of population analysis and forecasting can be developed. The limitation that now exists in the number of staff, the absence of a commitment to one set of population forecasts for use by all ministries and agents of government, and the lack of recognition of the importance of population trends and forecasts in the planning of programs have all tended to minimize the importance

of the Demographic Analysis Section. Our investigations have left us with little doubt that the establishment of an effective organization to provide reliable population forecasts would contribute to more efficient planning and would achieve economies many times in excess of any cost involved in the operation of the agency.

Enrolment Forecasts

If provision is made for the development of sound population projections, it becomes possible to develop reliable enrolment forecasts. All planning activities begin with accurate enrolment forecasts as a practical first step. At the three levels of the Ministry of Education, the school system, and the individual school, the planning of any service to be provided should begin by reference to the numbers for whom the service will be made available. In the past, decisions involving the commitment of millions of dollars and the time of thousands of staff members have been made on the basis of inadequate and deficient enrolment figures. The pattern of the past whereby enrolment projections were based largely on the grade-survival method is inadequate for long-term planning. The latter requires information about possible enrolments for an extended period. An analysis of demographic influences that may have implications for enrolment several years later can provide a better basis for forecasting than methods that rely on conditions as they develop or that depend on year to year statistics. The time is long past when more scientifically-developed measures of future school population should have been adopted.

Since 1967, the Department of Educational Planning of The Ontario Institute for Studies in Education has been developing enrolment forecasts. Until that time, little or no attempt had been made to study enrolment patterns in any systematic way although a number of independent and uncoordinated projections were made by various agencies or individuals. In the beginning, the Institute encountered many difficulties because of the inadequacy of the data base, the lack of continuity in the available data, and the changing boundaries of the educational juriadictions for which information was provided. As a result, the initial enrolment projections were sometimes at considerable variance with

the experience of particular school boards. With the advantages gained from its initial efforts and with the creation in January, 1969, of the county and district boards, in many cases having common boundaries with the areas for which population statistics are provided, the Institute has been able to develop more sophisticated and reliable projections.

In 1969, the Statistical Unit, Department of Education, now a section of the Planning and Research Branch, Ministry of Education, began work on projections of enrolment for the province. Initially, these were produced to assist branches of the Department and to avoid the practice of individual branches developing their own enrolment forecasts. In July, 1971, the Ministry released its forecast of enrolments by grade in a four-page announcement entitled Ontario Elementary and Secondary School Enrolment Projections, 1971-1981. The forecast came to be considered as the Ministry's official version of anticipated enrolments. The Ministry of Education has also entered into an annual contractual arrangement to have The Ontario Institute for Studies in Education develop a set of enrolment projections. The Institute provides the Ministry with a forecast for all counties, districts, and designated cities, the sum total of which forms a set of enrolment projections for the province as a whole. The Ministry has, therefore, two enrolment forecasts, one prepared internally in the Statistical Analysis Section of the Planning and Research Branch and considered as the official projection for the province, and a second set submitted to it by the Department of Educational Planning, The Ontario Institute for Studies in Education, with projections shown by counties, districts, and defined cities but without any "official" status attached to the forecast. The second set is quite often used when reference is to a specific educational jurisdiction. It is difficult to reconcile the use of two forecasts, one prepared by the Ministry for the total provincial enrolment, and a second commissioned by the Ministry to include forecasts for specific local jurisdictions but differing in the total for the province from the Ministry's own forecast.

We foresee a considerable saving of time, effort, and money in having a single set of projections developed for the guidance of those with planning responsi-

bility. The Department of Educational Planning at The Ontario Institute for Studies in Education has, either on its staff or available to it, representatives of the several disciplines involved in enrolment forecasting, and it possesses considerable expertise in general educational planning and in methods of educational research. For the Ministry of Education to duplicate the competencies now available in the Institute would be difficult, if not impossible, and it would be a costly and unnecessary duplication. Logic points to having the Institute develop a set of enrolment projections for the use of the Ministry of Education and school boards. An arrangement might be made by the Ministry for the Institute to do the work under contract and on a continuing basis. The Ministry would, of course, have to provide the Institute with the population projections made available to it by local authorities and any other relevant information and the Ministry would distribute the annual forecast to each school board as the basis for its particular planning.

Upon receipt of the population projections and the enrolment forecasts together with supporting and explanatory statements for its jurisdiction, each school board would be responsible for detailed analysis and comparison with the information available at the local level: developments may have occurred since the time the data were provided to the central agency that developed the population projection. For example, the decision to build a large community near the projected airport in Pickering or the plan for a new development in the Haldimand-Norfolk area would alter substantially the population and enrolment figures in the future. Similarly, on a more modest scale the decision to approve new subdivisions or to alter the zoning provisions in a municipality may change the projected figures. Events such as these would necessitate modifications in the forecasts provided to the board. Some attempt should be made by the school board to apply to new population the principles that influence population forecasts. For example, it is important to know if new residents will be of an age where they are likely to have children, or if some others new to the community are to live in a residence for the aged with no children to be educated.

School Board Planning and Municipal Councils

While school boards have responsibility for planning the educational program, most other services at the local level come within the jurisdiction of municipal councils. It is inevitable that decisions in one sector will have an impact on the other. There is, therefore, a need for the closest cooperation between the school board and the municipal councils in the geographic area served by the board, but it is not easy to achieve. Since the creation of the larger county and district school boards in 1969 and the continuance of many municipal councils each serving a smaller geographic area than the board, a board may from time to time have to deal with a multiplicity of municipal councils. The creation of Regional governments in some areas of the province has, of course, reduced the number of councils with which certain school boards have to deal. Occasionally, however, rivalry has developed between the school board and the municipal councils serving the same geographic areas. Such competition is as unnecessary as it is undesirable. It can only work to the disadvantage of both bodies, to the detriment of the children in the schools, and to fiscal penalties for the taxpayers who elect representatives to both bodies.

For example, under The Planning Act, the municipal council has the authority to appoint representatives to the Planning Board, but it is not required to include among these any members of the Roman Catholic Separate School board, the Public School board, or the Board of Education. While an increasing number of municipal councils have decided to appoint board representatives, many are still without representation. These school boards are often not aware of changes in zoning or approval of new subdivisions under consideration by the Planning Board until recommendations are made to the municipal council. If the school board were represented on the Planning Board, it could be alerted to the implications of the changes at an early stage so that necessary planning for education could begin promptly. It seems likely, too, that members of the Planning Board could give more adequate consideration to a proposal for development of a subdivision if the representative of the school board were present to indicate the provision for education that might be made or

that might be required.

In our earlier Report on School Building Programs,[7] we referred to the necessity for school boards to keep Planning Boards and municipal authorities informed of the amount of available school accommodation and its location. Subsequently, another study recommended "that legislation be established to ensure that school boards, both public and separate, have representatives on local planning boards and access to complete information on the development of new areas."[8] We concur in this recommendation and believe that it should be implemented, not only because of its importance in the determination of the accommodation to be provided but also because of the broader implications of decisions of Planning Boards and municipal councils for the planning of total educational programs.

In those jurisdictions where there is a school board and a multiplicity of municipalities, it may not be possible to designate a representative of the board to sit on each Planning Board, There, provision ought to be made for liaison between the two bodies by the designation of an official from each body to keep his counterpart informed of developments that may be of interest and concern to the two organizations.

But there is a further need for cooperation between the school board and municipal councils that goes beyond involvement with the decisions of Planning Boards. Many other decisions of each of the two bodies have importance for the other. For example, if the school board is considering the closing of a school in a municipality, the council ought to be informed and given opportunity to make any representations it may have. The municipal council, on the other hand, may decide to alter roads, construct bridges, or undertake other work projects that determine the routes for school buses, or it may make de-

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[7] School Building Programs, Interim Report Number Two, Committee on the Costs of Education, Queen's Printer and Publisher, Toronto, 1972, p. 72.

[8] Report of the Study Team on the Sharing or Transferring of School Facilities, Queen's Printer and Publisher, Toronto, February, 1973, p. 12.

cisions about the provision of library and recreational services that have significance for the school board. We are, therefore, of the opinion that provision for consultation and reporting between the school board and the municipal councils ought to be established on a formal basis and that the interchange of information ought to be free and complete enough to assist each body to perform its planning function with the maximum degree of efficiency permitted by this kind of cooperation. Because of the diverse circumstances that exist across the province and because of the necessity to rely on cooperation instead of compulsion, it is impossible to develop a structure that guarantees consultation and the transfer of information. But representatives of each body should realize the value and importance of full knowledge and understanding of the activities of the other in the development of a sound basis for planning their respective programs.

Planning Among School Boards

A difficulty in planning for education at the local level arises from the fact that, in most parts of the province, there are two independent educational agencies - the Public School board and the Roman Catholic Separate School board - operating within the same attendance area. The major problem, uncertainty about the numbers of pupils for whom each board is responsible, arises from the right that Roman Catholics have to change their assessment from the support of Public Schools to Separate Schools and vice versa. The most obvious example is in the provision of school accommodation where, in a period of overall declining enrolments, a Public School board may be left with considerable unused space in September because of the transfer of pupils during the summer vacation. At the same time, the Roman Catholic Separate School board may have a problem of limited accommodation for the same pupils. Because the number of pupils who will transfer is not definitely known sufficiently far in advance, the receiving board is often unable to justify the additional accommodation it will need later or to provide it on time. This particular problem was described in our Interim Report Number Two[9] and was also the subject

[9] School Building Programs.

of a study completed in early 1973.[10]

But there are other implications for the total educational program inherent in the transfer of pupils between the two types of school. The board that has pupils enrolled in its schools in January of any year must make provision for them in its budgetary planning for the whole calendar year. When a considerable number of them do not enrol in September, the board may have more teachers than it needs, more supplies and text-books than required, and lower expenditure ceilings than anticipated within which to accommodate the cost of the unneeded services and supplies. The board that receives the transferring pupils has different but comparable problems in that it must provide for pupils for whom it did not budget.

While the solution to these problems from a planning standpoint is not easy, there are a number of measures that could assist to alleviate the impact of the transfers. When a Public School ratepayer indicates in any calendar year that he intends to transfer his assessment to the support of the Roman Catholic Separate Schools, it would seem to be most helpful to both boards to have the transfer become effective in September of the following year. For the period January to June, the Separate School board would receive taxes from the supporter's property and might pay fees which would be eligible for legislative grant. For a Roman Catholic Separate School supporter who decided to become a Public School ratepayer, the same provisions might apply. Adoption of this suggestion would permit better budgeting and overall planning than is possible under the existing arrangements. We are aware of the sensitive nature of the area with which our suggestion deals and are not, therefore, making a formal recommendation that it be implemented. Rather, we would hope that the boards themselves might work out an arrangement whereby effect could be given to our suggestion in the interests of sound planning, conservation of financial resources, and the educational welfare of the pupils.

In other parts of the total educational enterprise, opportunity exists for

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[10] Report of the Study Team on the Sharing or Transferring of School Facilities.

cooperative action without interfering in any way with the responsibilities, rights, and independence of the two school systems. We have been made aware of joint contracts for the transportation of pupils, of combined efforts to provide special education programs, of the utilization of highly-qualified professional staff on a shared basis, of employment of some staff for a part-time period by each board, and the like. We cannot speak too highly of these arrangements and commend the boards concerned for their foresight and cooperation in the interests of all the children involved. We see no reason why the special characteristics of each school system cannot be maintained while common problems are considered and solved through the added strength that comes from boards and their staffs working together.

But we are convinced that the best results will be achieved through voluntary cooperative action free from compulsion or coercion. Mandatory cooperation is a contradiction in terms and is unattainable in practice. If goodwill, mutual respect, and recognition of the rights and responsibilities of others are absent mere compliance with legal requirements is unlikely to achieve positive results. Fortunately, in many areas, we found evidence of positive attitudes and increasingly good relationships between trustees, officials, and teachers of the two systems. It is on these observations that we base our optimism that further positive accomplishments can be realized. Because of the great disparities of geography, enrolment, and local conditions, we believe it is unrealistic to suggest any pattern that might be applicable across the province. Rather, we believe that the unique characteristics of each area call for uncommon approaches to common problems. We have every confidence that the school boards in a particular area and their trustees, teachers, administrators, supervisors, and the general public can best determine the relationships that they wish to see developed in the interests of the education of all their children.

Planning Relationship of the Ministry to School Boards

As long ago as 1950, Beach in the United States made the following observation: "Planning ranks at the top among functions of state departments of education.

.....It is the very essence of the leadership function.....Only through planning can the program of the state department of education have purpose and direction. No program of the state department can go much beyond the vision of its leaders as expressed in their plans."[11] This statement can be applied equally well to the Ministry of Education in Ontario today.

The importance of the leadership role of the Ministry of Education in educational planning is difficult to exaggerate. But "leadership" is a term subject to interpretation by those who use it, and we wish to make our understanding of it quite clear. From early pioneer days in Ontario there was a great need for strong central direction of education while the structure of the provincial system was evolving and while the qualifications and capabilities of the profession were being developed. With the emergence in recent times of larger school units with highly competent staff and with more knowledgeable parents, trustees, and communities, there is little need for the traditional regulatory and supervisory function exercised by the former Department of Education.

Leadership by the central authority in the planning of education can best be effected through the provision of a very limited, highly competent staff in the central office augmented by similarly qualified staff in the Regional offices. These outstanding professionals should be available to local school systems to suggest possible directions for the educational enterprise but not to direct it. Their role should be to assist school boards, on request, to achieve the goals that have been determined by the local communities. The Ministry of Education should not assume that it is responsible for educational achievement at the local level. That way lies conformity, uniformity, and rigidity. Planning in education must include provision for research, innovation, and experimentation or, as Sweden has described it, "rolling reform". This latter function can best be achieved when local school systems do their

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[11] Morphet, E. L., and Ryan, Co. O., Designing Education for the Future, No. 3: Planning and Effecting Needed Changes in Education, Citation Press, New York, 1967, p. 281.

planning supported by the kind of help that the Ministry of Education can provide. Local school systems ought to be held accountable to the people in their communities; but such accountability is possible only if they are given the responsibility to plan education to achieve the goals that they have identified and accepted.

PART II
DEMOGRAPHIC INFLUENCES
ON
SCHOOL ENROLMENT

CHAPTER 3

POPULATION

Canada's population in the 1971 Census was 21,568,315, with Ontario having 7,703,105, or 35.7 per cent of the total. Since Confederation in 1867, Ontario has always been the single most populous province. While there were substantial increases in population from 1901 to 1931, the greatest growth in Ontario was experienced between 1941 and 1971. The decade between 1931 and 1941 registered an increase of 10.4 per cent, much less than the previous intercensal periods, due to the Great Depression and the early part of the Second World War. Subsequent percentage increases in 1951, 1961, and 1971 were 21.4, 35.6, and 23.5 respectively. The actual population figures are given in Table 1 and Graph 1.

TABLE 1

POPULATION OF CANADA AND ONTARIO

CENSUS YEARS 1901 to 1971

	Population		
Year	Canada	Ontario	Per Cent
1901	5,371,315	2,182,947	40.6
1911	7,206,643	2,527,292	35.1
1921	8,787,949	2,933,662	33.4
1931	10,376,786	3,431,683	33.1
1941	11,506,655	3,787,655	32.9
1951	14,009,429	4,597,542	32.8
1961	18,238,247	6,236,092	34.2
1971	21,568,315	7,703,105	35.7

Source: Census of Canada, 1961, 1966 and 1971, Statistics Canada.

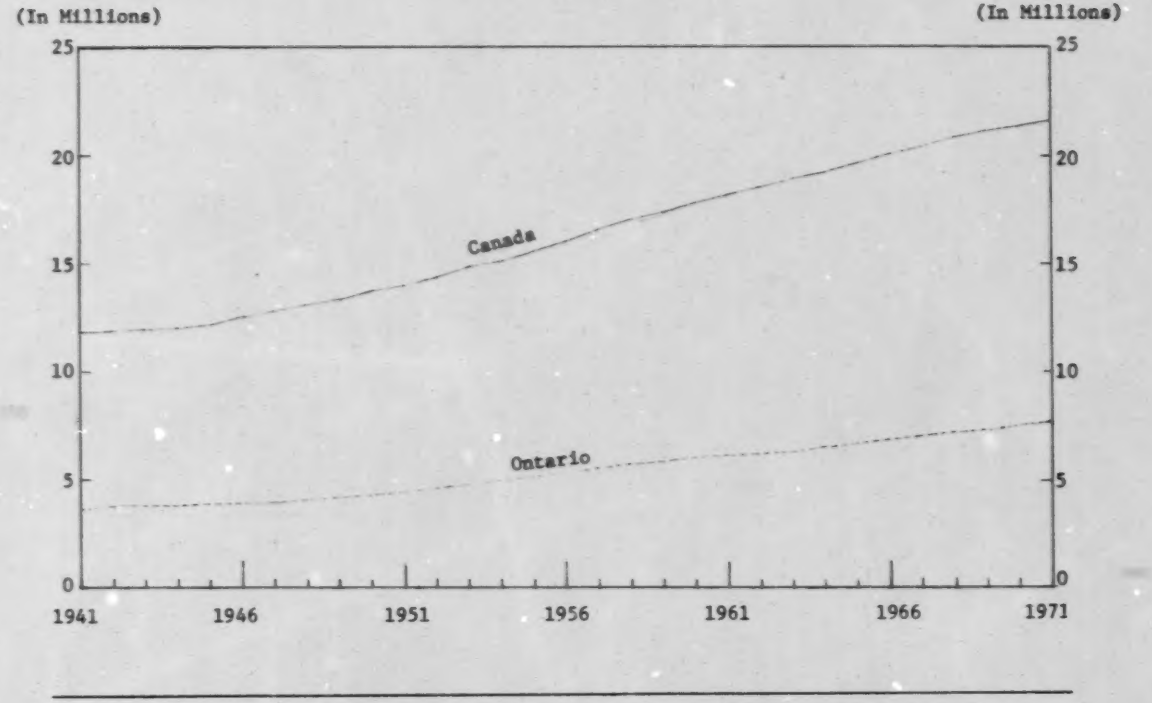
Age of Population

Age structure is an important factor in the analysis of population. A concentration of numbers in any one age group has implications for the future growth of population. The age structure influences the birth and death rates.

GRAPH 1

POPULATION OF CANADA AND ONTARIO

1941 to 1971



Source: Table 1.

These rates in turn influence the characteristics or the composition of a population from one period to another. Age structure of a population at any given time determines to a considerable extent the degree of commitment of a modern society to social development. An economy that relies on production needs a labour force, and the age structure dictates the availability of the labour force. Service-oriented institutions and organizations cater to the needs of particular age groups so that a change in the age structure can alter the pattern of demand for, and the production of, goods and services. A large number of adults in the reproductive ages can influence the birth rates upwards with the result that heavy demands are placed on society's health, education, and welfare programs.

Changes in the age structure of the population are of particular significance for school enrolments, the educational services to be provided, and the allocation of resources to meet the needs. In Ontario, developments in the post-World War II years and the accompanying "baby-boom" placed a great strain on provisions for education and educational facilities and created an unprecedented demand for their expansion.

The age distribution of the population of Ontario for the census years 1901 to 1971 is shown in Table 2. The age group 0-4 is of particular significance in forecasting the demand for education (Table 3 and Graph 2). The high birth rates of the late 1940's made this age group the largest of all five-year age groups in 1951. It continued to be the largest in 1961, constituting a high of 11.9 per cent of the total population and accounting for 740,193 children. The year 1966 registered a slight decrease to 10.7 per cent and in 1971 the proportion stood at 8.3 per cent, or 3.6 percentage points below the high of 11.9 per cent in 1961. Between 1951 and 1966, the number of children in this category increased by 231,022. Between 1956 and 1961, the increase was 111,368. But between 1961 and 1966, the increase was only 5,551. Between 1966 and 1971, there was an actual decrease in this category of 108,484. These are highly significant figures for the planning of educational facilities and programs.

TABLE 2

AGE DISTRIBUTION OF THE POPULATION, ONTARIO

CENSUS YEARS 1901 to 1971

Age Group	1901		1911		1921		1931		1941	
	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent
0-4	224,814	10.3	263,266	10.4	301,809	10.3	307,711	9.0	297,924	7.9
5-9	230,568	10.6	244,165	9.7	307,861	10.5	332,988	9.7	301,515	8.0
10-14	229,849	10.5	233,813	9.3	275,764	9.4	318,300	9.3	324,804	8.6
15-19	229,745	10.5	240,833	9.5	254,933	8.7	318,983	9.3	339,116	8.9
20-24	216,042	9.9	247,219	9.8	239,931	8.2	291,268	8.5	323,989	8.5
25-29	178,597	8.2	228,447	9.0	238,524	8.1	264,758	7.7	315,706	8.3
30-34	154,883	7.1	195,587	7.7	224,380	7.6	252,210	7.3	286,504	7.6
35-39	143,979	6.6	171,971	6.8	219,458	7.5	246,726	7.2	268,380	7.1
40-44	127,058	5.8	150,091	5.9	187,302	6.4	228,613	6.7	250,321	6.6
45-49	104,433	4.8	133,105	5.3	161,145	5.5	206,192	6.0	232,617	6.1
50-54	89,134	4.1	116,514	4.6	141,164	4.8	177,685	5.2	214,094	5.6
55-59	70,614	3.2	87,183	3.4	112,396	3.8	137,128	4.0	181,734	4.8
60-64	62,668	2.9	72,302	2.9	96,944	3.3	114,960	3.3	149,626	4.0
65-69	47,263	2.2	54,834	2.2	69,777	2.4	92,737	2.7	116,342	3.1
70+	73,300	3.3	87,962	3.5	102,474	3.5	141,424	4.1	184,983	4.9
Total	2,182,947	100.0	2,527,292	100.0	2,933,662	100.0	3,431,683	100.0	3,787,655	100.0

TABLE 2 (Continued)

AGE DISTRIBUTION OF THE POPULATION, ONTARIO

CENSUS YEARS 1901 to 1971

Age Group	1951		1956		1961		1966		1971	
	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent
0-4	514,722	11.2	628,825	11.6	740,193	11.9	745,744	10.7	637,260	8.3
5-9	399,292	8.7	563,678	10.4	674,519	10.8	770,061	11.1	783,515	10.2
10-14	325,300	7.1	425,922	7.9	593,037	9.5	688,270	9.9	787,715	10.2
15-19	315,685	6.8	346,850	6.4	436,883	7.0	599,197	8.6	713,365	9.3
20-24	352,360	7.7	355,160	6.8	386,966	6.2	485,053	7.0	674,130	8.7
25-29	387,239	8.4	417,395	7.7	422,651	6.8	433,856	6.2	567,345	7.4
30-34	351,043	7.6	438,713	8.1	459,825	7.4	447,155	6.4	478,150	6.2
35-39	340,797	7.4	390,784	7.2	469,312	7.5	472,616	6.8	468,515	6.1
40-44	302,342	6.6	361,098	6.7	397,251	6.4	462,358	6.7	474,150	6.2
45-49	268,129	5.8	312,208	5.8	360,749	5.8	390,983	5.5	469,820	6.1
50-54	247,478	5.4	269,298	5.0	309,795	5.0	353,402	5.1	381,130	4.9
55-59	210,308	4.6	236,482	4.4	258,327	4.1	293,325	4.2	343,555	4.4
60-64	182,484	4.0	194,145	3.6	218,511	3.5	244,128	3.5	280,045	3.6
65-69	155,097	3.4	167,371	3.1	180,063	2.9	199,206	2.9	227,765	3.0
70+	245,266	5.3	287,004	5.3	328,010	5.2	368,516	5.3	416,645	5.4
Total	4,597,542	100.0	5,404,933	100.0	6,236,092	100.0	6,960,870	100.0	7,703,105	100.0

Source: Census of Canada, 1901 to 1971, Statistics Canada.

TABLE 3

INCREASE IN POPULATION OF AGE GROUP 0-4, ONTARIO

CENSUS YEARS 1901 to 1971

Year	Age Group 0-4	Increase	Percentage Increase
1901	224,814		
1911	263,266	38,452	17.1
1921	301,809	38,543	14.6
1931	307,711	5,902	2.0
1941	297,924	-9,787	-3.2
1951	514,722	216,798	72.8
1956	628,825	114,103	22.2
1961	740,193	111,368	17.7
1966	745,744	5,551	.7
1971	637,260	-108,484	-14.5

Source: Census of Canada, 1961, 1966, and 1971, Statistics Canada.

The age groups 5-9 and 10-14, from which almost all the enrolment at the elementary school level is drawn, represented 15.8 per cent of the population in 1951. Subsequently, these age groups formed 18.3 per cent in 1956, 20.3 per cent in 1961, 21.0 per cent in 1966, and 20.4 per cent in 1971.

The age group 15-19, from which most of the secondary school enrolment is drawn, reached a low of 6.4 per cent of the population in 1956. By 1961, it was 7.0 per cent, in 1966 it had risen to 8.6 per cent; and in 1971, constituted 9.3 per cent of the total population.

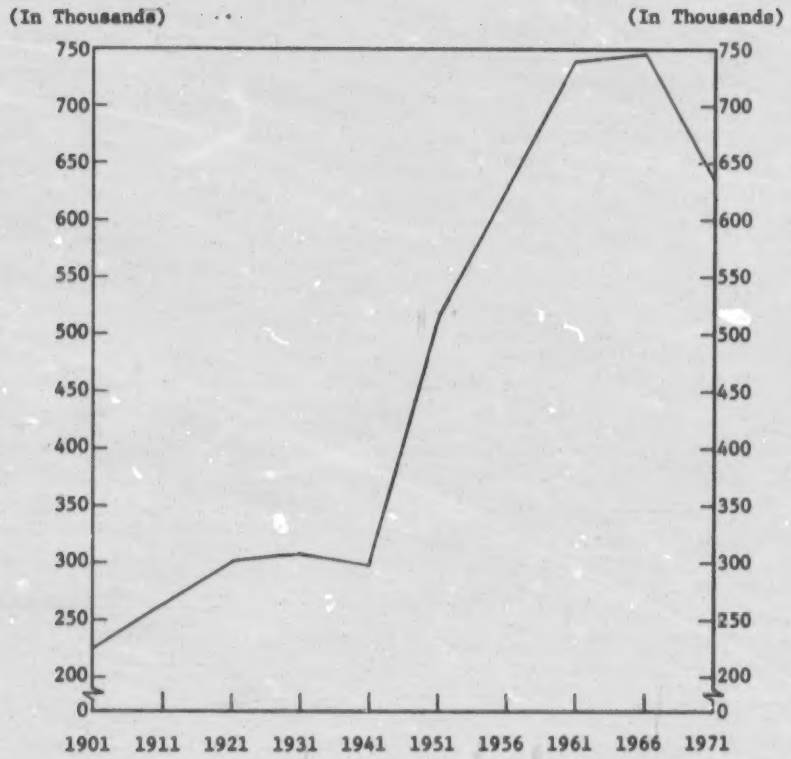
The age groups represented in the categories from 20-24 to 60-64 inclusive declined from 57.5 per cent of the population in 1951 to 52.7 per cent in 1961 and then increased slightly to 53.7 per cent in 1971.

The age groups from 65-69 to 70+, constituting 8.2 per cent of the total population in 1966, increased slightly to 8.4 per cent in the 1971 census, reflecting in part a decline in mortality rates in these categories in more recent years.

GRAPH 2

INCREASE IN POPULATION OF AGE GROUP 0-4, ONTARIO

1901 to 1971



Source: Table 3.

The dramatic changes in the age structure of the population in the last 20 to 25 years were keenly felt in education. After 1946, the increasing proportion of those in the age group 0-4 created tremendous problems as wave after wave of these children reached school age. Greatly increased enrolments necessitated the building of many new schools in a system already short of accommodation because of a virtual moratorium on school building during the depression years of the 1930's and the war years of the 1940's. More teachers had to be provided, necessitating the construction of additional teacher education institutions where none had been built for decades. Corresponding increases in every other aspect of the educational enterprise were required. As a result, the amount of the financial resources devoted to education began the rise that has continued to the present.

Enrolment by Age

In 1941, according to the census, there were 297,924 children in the age group 0-4 in Ontario (Table 4). By 1946, these children were in the age group 5-9 and, therefore, of school age. Under circumstances existing in 1971-72, it would have been anticipated that almost all of the 297,924 would have been enrolled in the elementary schools in 1945-46. The actual enrolment in 1945-46 of those in the 5-9 age group was only 237,193, about 80 per cent of the number in the 0-4 age group in 1941. The smaller number actually enrolled in 1945-46 was due to a number of factors including the relatively high mortality rate among infants, the movement of population in and out of the province, and the fact that not all children five to nine years of age had to be enrolled in school. By an amendment to The Schools Administration Act,[1] in 1954, the ages of compulsory school attendance were changed from eight to 14 to six to 16. Consequently, the pattern of age at enrolment prior to 1954 was somewhat different from that in effect today.

In 1951, there were 514,722 children in the age group 0-4 compared with 297,924

[1] The Schools Administration Act, Revised Statutes of Ontario, 1970, Chapter 424, Section 6.

TABLE 4

POPULATION BY AGE GROUP[1], 1941 to 1966, and
ENROLMENT BY AGE GROUP[2], 1945-46 to 1971-72, ONTARIO

Census Year	Population by Age Group 0-4	School Year	Total Enrolment by Age Group[b] 5-9	Percentage of Enrolment to Population by Age Group
1941	297,924	1945-46	237,193[a,c]	79.6
1951	514,722	1955-56	458,190[c]	89.0
1956	628,825	1960-61	551,234[c]	87.7
1961	740,193	1966-67	735,822	99.4
1966	745,74[illegible]	1971-72	751,006	100.7
	5-9		10-14	
1941	301,515	1945-46	302,367[a]	100.3
1951	399,292	1955-56	412,358	103.3
1956	563,678	1960-61	574,994	102.0
1961	674,519	1966-67	678,842	100.6
1966	770,061	1971-72	780,576	101.4
	10-14		15-19	
1941	324,804	1945-46	126,775[a,d]	39.0
1951	325,300	1955-56	164,463	50.6
1956	425,922	1960-61	236,781	55.6
1961	593,037	1966-67	345,531	58.3
1966	688,270	1971-72	446,431	64.9
	15-19		20-	
1941	339,116	1945-46	-	-
1951	315,685	1955-56	2,263	.7
1956	346,850	1960-61	4,222	1.2
1961	436,883	1966-67	4,360	1.0
1966	599,197	1971-72	4,467	.7

Notes: [a]Net enrolment 1945-46.

[b]Age of enrolment as of June 1 for the years 1946, 1956 and 1961, and as of September 30 for the years 1966 and 1971.

[c]Includes five years and under.

[d]Includes nineteen years and over.

Sources: [1]Census of Canada, 1961 and 1966, Statistics Canada.

[2]Reports of the Minister of Education, 1946, 1956, 1961, 1966 and 1971.

in 1941, or an increase of 72.8 per cent. In 1955-56, the number of those in the age group 5-9 enrolled in the elementary schools was 89 per cent of the number in the age group 0-4 in 1951. The increase in the percentage of the age group 0-4 in 1951 who were enrolled in 1955-56 over the percentage of the age group 0-4 in 1941 who were enrolled in 1945-46, can be attributed to the arrival of more immigrants, particularly in 1951 when 104,842 came to Ontario, a number that had not been equalled in 36 years. While the number of immigrants in the age group 5-9 is not known, there were 25,088 under 18 years of age. It is estimated that 70 per cent of these were ten years of age and under.[2] Other factors included a decline in mortality rates for children under five years of age from 14.8 per thousand population in 1941 to 7.5 by 1951, and the lowering of the compulsory school attendance age from eight to six in 1954.

By 1966-67, the percentage of the 5-9 age group enrolled in the schools was 99.4 per cent of the number in the age group 0-4 in 1961. In 1971-72, enrolment statistics indicate that those five to nine years of age in the elementary schools constituted 100.7 per cent of the number in the age group 0-4 in 1966. These percentages do not suggest a perfect enrolment in any year of all those in the age group 0-4 five years earlier since obviously this can never be achieved. The percentages simply indicate the high replacement levels of enrolment in the 5-9 age group through migration into the province to compensate for the inevitable reduction in the original number in the 0-4 age cohort as a result of mortality, migration from the province, and non-attendance of some children of school age before the compulsory age of six.

Because population in the age group 0-4 is of particular significance in the short-term planning of education and educational facilities at the early elementary school level, the analysis above has concentrated on the enrolment of the age group 5-9 some five years later. But the age group 0-4 is equally important to the longer-range planning for the senior elementary school and the secondary school as this group moves through the school system. The data

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[2] Report of the Minister of Education, 1954, p. 48.

in Table 4 show the relationships between the population in the age groups 5-9 and 10-14 and the enrolments in the age groups 10-14 and 15-19 respectively five years later. While we have not made special reference to the impact of increases in population of the age group 0-4 beyond the enrolment years 5-9, Table 4 shows the results for the census and intercensal years. The magnitude of the increases in enrolment presented a tremendous challenge to those responsible for the provision of educational facilities and programs. While the data are for five-year intervals, the actual planning at the school board level requires that the changes in population and enrolment be considered on an annual basis as well.

CHAPTER 4
LIVE BIRTHS

The most significant factor in the determination of short-range future school enrolments is the number of live births (Table 5 and Graph 3). The "crude" live birth rate in any year is the number of live births per thousand of total population. The term "crude" is applied because the live birth rate based on total population tells nothing about the factors that together account for the number of births in any year. It is, nevertheless, a useful statistic because it indicates the actual numbers for whom educational provision will have to be made four or five years later. In 1941, there were 72,262 live births in Ontario and in 1947 the number was 108,853, an increase of 50.6 per cent in six years, or an average annual increase of 8.4 per cent. The crude live birth rate increased from 19.1 per thousand population in 1941 to 26.1 in 1947, or 7 points. The corresponding statistics for Canada for the same period are 22.4 and 28.9, or 6.5 points. Ontario recorded a steady rise in live births from 1948 to 1957. In the latter year, the rate per thousand population reached a high of 26.8 for a total of 150,920 live births. The first sign of a decline was observed when the live birth rate fell from 26.8 in 1957 to 26.2 in 1958, or .6 of a point. Although the number of live births registered an increase of 1,717 in 1958 over 1957, the annual rate of increase declined sharply from 5.2 per cent between 1956 and 1957 to 1.1 per cent between 1957 and 1958. The Ontario live birth rates declined from 1959 to 1968 when the lowest rate since 1941 was observed at 17.3 per thousand population for 126,257 live births. While the rate showed a slight rise in 1969 and 1970, it reached a new low of 16.9 in 1971.

Live Births and Initial School Enrolment

The impact on school enrolment of the number of live births in any year is felt four, five, or six years later (Table 6). If, for purposes of analysis, it is assumed that there was no death or disability of the newborn and that there was no movement of population in and out of the province, it might normally have been expected that of the 108,708 children born in 1950, a consid-

TABLE 5

VITAL STATISTICS, ONTARIO[1]

1941 to 1971

Year	Live Births[a]	Rate[c]	Infant Mortality[a]	Rate[d]	General Mortality[a]	Rate[c]	Natural Increase[a]	Rate[c]	Total Population (000)[b] Male	Female	Total
1941	72,262	19.1	3,294	45.6	39,226	10.4	33,036	8.7	1,921.2	1,866.5	3,787.7
1942	78,192	20.1	3,139	40.1	39,119	10.1	39,073	10.0	1,966.4	1,917.6	3,884.0
1943	81,173	20.7	3,390	41.8	41,063	10.5	40,110	10.2	1,981.6	1,933.4	3,915.0
1944	78,070	19.7	3,346	42.8	39,781	10.0	38,309	9.7	2,004.6	1,958.4	3,963.0
1945	78,774	19.7	3,209	40.6	39,499	9.9	39,475	9.8	2,014.6	1,985.4	4,000.0
1946	97,446	23.8	3,653	37.5	39,758	9.7	57,688	14.1	2,064.3	2,028.7	4,093.0
1947	108,853	26.1	3,914	36.0	41,619	10.0	67,234	16.1	2,106.4	2,069.6	4,176.0
1948	104,195	24.4	3,684	35.4	42,364	9.9	61,831	14.5	2,158.9	2,116.1	4,275.0
1949	106,601	24.3	3,974	37.3	43,379	9.9	63,222	14.4	2,210.5	2,167.5	4,378.0
1950	108,708	24.3	3,751	34.5	43,948	9.8	64,760	14.5	2,249.7	2,221.3	4,471.0
1951	114,827	25.0	3,545	30.9	43,981	9.6	70,846	15.4	2,314.1	2,283.4	4,597.5
1952	123,891	25.9	3,789	30.6	44,402	9.3	79,489	16.6	2,412.5	2,375.5	4,788.0
1953	129,771	26.3	3,696	28.5	45,242	9.2	84,529	17.1	2,491.9	2,449.1	4,941.0
1954	136,261	26.6	3,517	25.8	44,515	8.7	91,746	17.9	2,580.0	2,535.0	5,115.0
1955	139,554	26.5	3,622	26.0	45,434	8.6	94,120	17.9	2,653.8	2,612.2	5,266.0
1956	143,516	26.6	3,610	25.2	47,231	8.7	96,285	17.9	2,721.5	2,683.4	5,404.9
1957	150,920	26.8	3,776	25.0	49,164	8.7	101,756	18.1	2,840.0	2,796.0	5,636.0
1958	152,637	26.2	3,801	24.9	48,677	8.4	103,960	17.8	2,930.9	2,890.1	5,821.0
1959	157,124	26.3	3,773	24.0	50,600	8.5	105,524	17.8	3,005.8	2,963.2	5,969.0
1960	159,245	26.1	3,745	23.5	51,484	8.4	107,761	17.7	3,074.7	3,036.3	6,111.0
1961	157,663	25.3	3,626	23.0	50,997	8.2	106,666	17.1	3,134.5	3,101.6	6,236.1
1962	156,053	24.6	3,621	23.2	52,156	8.2	103,897	16.4	3,187.5	3,163.5	6,351.0
1963	155,089	23.9	3,532	22.8	53,617	8.3	101,472	15.6	3,247.8	3,233.2	6,481.0
1964	152,729	23.0	3,255	21.3	52,204	7.9	100,525	15.1	3,318.0	3,313.0	6,631.0
1965	141,610	20.9	2,907	20.5	54,346	8.0	87,264	12.9	3,394.8	3,393.2	6,788.0
1966	131,942	19.0	2,669	20.2	54,171	7.8	77,771	11.2	3,479.2	3,481.7	6,960.9
1967	127,509	17.8	2,515	19.7	54,878	7.7	72,631	10.1	3,573.2	3,575.8	7,149.0
1968	126,257	17.3	2,396	19.0	55,552	7.6	70,705	9.7	3,649.8	3,656.2	7,306.0
1969	130,398	17.5	2,299	17.6	55,707	7.5	74,691	10.0	3,721.8	3,730.2	7,452.0
1970	134,724	17.6	2,271	16.9	56,769	7.4	77,955	10.2	3,812.0	3,825.0	7,637.0
1971[2]	130,395	16.9	1,990	15.3	56,623	7.4	73,772	9.6	3,840.9	3,862.2	7,703.1

Notes: [a] Statistics based on calendar year.

[b] Statistics as of June 1.

[c] Rate per thousand population.

[d] Rate per thousand live births.

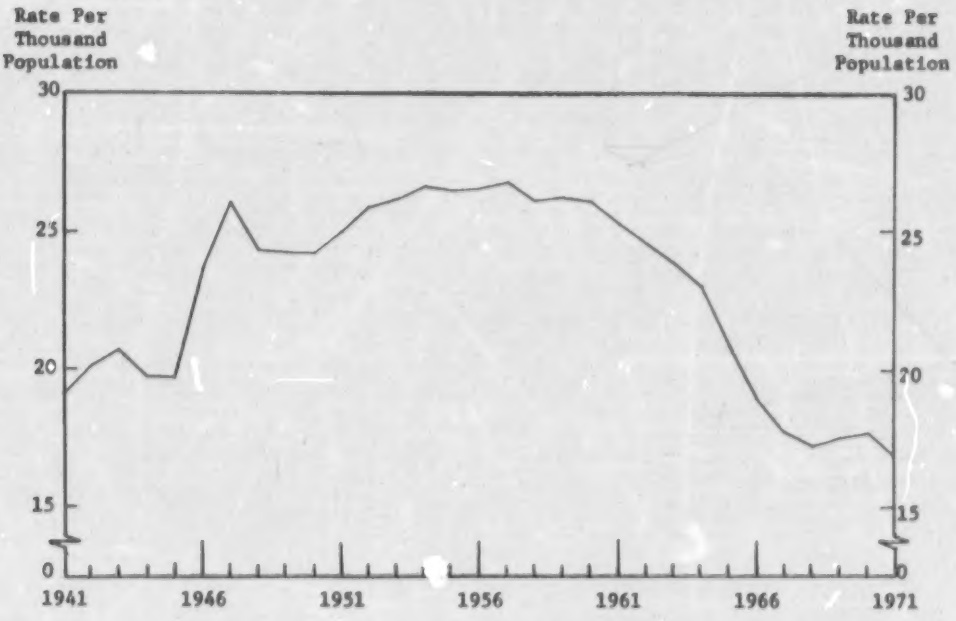
Sources: [1] Vital Statistics, 1970, Statistics Canada.

[2] Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

GRAPH 3

BIRTH RATES, ONTARIO

1941 to 1971



Source: Table 5.

TABLE 6

LIVE BIRTHS[1], 1946 to 1966, and ENROLMENT[2]
IN KINDERGARTEN AND GRADE 1, 1951-52 to 1972-73, ONTARIO

		Kindergarten			Grade 1		
Year	Live Births	School Year	Total Enrolment	Per Cent of Live Births	School Year	Total Enrolment[a]	Per Cent of Live Births
1946	97,446	1951-52	53,139	54.5	1952-53	-	-
1947	108,853	1952-53	61,716	56.7	1953-54	-	-
1948	104,195	1953-54	59,108	56.7	1954-55	-	-
1949	106,601	1954-55	61,221	57.4	1955-56	123,998	116.3
1950	108,708	1955-56	64,729	59.5	1956-57	127,193	117.0
1951	114,827	1956-57	70,280	61.2	1957-58	133,705	116.4
1952	123,891	1957-58	77,073	62.2	1958-59	141,921	114.6
1953	129,771	1958-59	82,913	63.9	1959-60	146,565	112.9
1954	136,261	1959-60	88,603	65.0	1960-61	152,291	111.8
1955	139,554	1960-61	93,193	66.8	1961-62	154,081	110.4
1956	143,516	1961-62	99,033	69.0	1962-63	157,234	109.6
1957	150,920	1962-63	104,325	69.1	1963-64	161,807	107.2
1958	152,637	1963-64	109,297	71.6	1964-65	165,156	108.2
1959	157,124	1964-65	119,170	75.8	1965-66	169,329	107.8
1960	159,245	1965-66	127,982	80.4	1966-67	173,339	108.9
1961	157,663	1966-67	134,004	85.0	1967-68	173,516	110.1
1962	156,053	1967-68	140,059	89.8	1968-69	171,493	109.9
1963	155,089	1968-69	146,804	94.7	1969-70	169,697	109.4
1964	152,729	1969-70	158,365	103.7	1970-71	167,091	109.4
1965	141,610	1970-71	154,465	109.1	1971-72	155,051	109.5
1966	131,942	1971-72	149,148	113.0	1972-73	-	-

Note: [a]Enrolment for grade 1 was not published as a separate statistic between 1952-53 and 1954-55.

Sources: [1]Vital Statistics, 1946 to 1970, Statistics Canada.
[2]Reports of the Minister of Education, 1951 to 1971.

erable number would have enrolled in the optional kindergarten program in 1955-56 and, on the basis of compulsory school age requirements, almost all would have enrolled in grade 1 in 1956-57. The actual enrolments in kindergarten in 1955-56 show a registration of only 59.5 per cent of the number of live births in 1950. In 1956-57, however, the actual enrolments in grade 1 were 117.0 per cent of the number of live births in 1950. It is important, however, to consider the implications of our two assumptions regarding mortality and migration. In 1970, the 0-4 age group had the highest mortality rate of any age group under the age of 45. Consequently, the enrolment in any year from among those born four, five, or six years earlier, is bound to be fewer.

The other factor, migration, is often of special significance depending on the immigration policies of the federal government and the net migration for the province. In 1970, the age groups 0-4 and 5-9 accounted for 29.3 per cent and 26.5 per cent respectively of the total number of immigrants under the age of 19. Since 1962, Ontario has shown a net gain in the number of children transferring into the province over those who leave. The overriding influence of international and interprovincial migration into the province over the combined influences of mortality rates and rates of out-migration is shown by the enrolments in grade 1 in comparison with the live births six years earlier.

Since 1969, the enrolments - as a percentage of the number of live births five years earlier - have shown a trend similar to the enrolments in grade 1. These percentages, although indicative of the relationship between live births and enrolment, need some qualification. The children enrolled in kindergarten are not all five years of age because they include those enrolled in the junior kindergarten, a program that has expanded rapidly in recent years. The age limit for admission to kindergarten, which does not permit all children born in the same year to enter at the same time, distorts the figures. Not all children in grade 1 are six years of age. Consequently, a direct comparison between live births in any year and enrolment in school several years later has limitations. However, if these inherent difficulties are fully understood

and taken into account, the relationship between live births and subsequent school enrolment can serve as a useful indicator of future enrolments at the school entry levels.

Probable Years of School Attendance

An important relationship exists between the number of live births in a specific year and the years of probable school attendance. Reference has already been made to the intervals between birth and the age of initial school enrolment, which are four years for junior kindergarten, five years for senior kindergarten, and six years for grade 1, and to the fact that in each of these programs there are pupils above and below the expected age limits. Such straddling of the age limits is, therefore, extended to enrolments for all grades. Despite these variations, a set of years can be designated as the probable years of school attendance of those born each year, and reasonable assumptions can be made about the enrolment of these children in specific grades in later years (Table 7).

In the determination of the years of probable school attendance, certain assumptions have been made. Children born in a specific year are assumed to enrol in senior kindergarten five years later. Consequently, those born in 1968 will normally register in senior kindergarten in 1973-74. However, some will have enrolled in junior kindergarten in 1972-73 and others will not begin school in grade 1 until 1974-75. It is further assumed that pupils will normally spend nine years from senior kindergarten to grade 8 inclusive. However, a considerable proportion of the enrolment complete this program in eight years while a few require ten years. At the secondary level, it is assumed that the great majority of students will require five years, although a few students manage it in four years by taking some additional credits during the regular session and the summer school.

While the relationship between year of birth and the probable years of school attendance is not the same for all students, the great majority follow the pattern described above. It is possible, therefore, to estimate with a rea-

TABLE 7

LIVE BIRTHS[1], 1941 to 1971, and

YEARS OF PROBABLE SCHOOL ATTENDANCE, ONTARIO

Year	Live Births	Years of Probable School Attendance by School Year: Elementary Kindergarten to Grade 8	Secondary Grade 9 to Grade 13
1941	72,262	1946-47 to 1954-55	1955-56 to 1959-60
1942	78,192	1947-48 to 1955-56	1956-57 to 1960-61
1943	81,173	1948-49 to 1956-57	1957-58 to 1961-62
1944	78,090	1949-50 to 1957-58	1958-59 to 1962-63
1945	78,974	1950-51 to 1958-59	1959-60 to 1963-64
1946	97,446	1951-52 to 1959-60	1960-61 to 1964-65
1947	108,853	1952-53 to 1960-61	1961-62 to 1965-66
1948	104,195	1953-54 to 1961-62	1962-63 to 1966-67
1949	106,601	1954-55 to 1962-63	1963-64 to 1967-68
1950	108,708	1955-56 to 1963-64	1964-65 yo 1968-69
1951	114,827	1956-57 to 1964-65	1965-66 to 1969-70
1952	123,891	1957-58 to 1965-66	1966-67 to 1970-71
1953	129,771	1958-59 to 1966-67	1967-68 to 1971-72
1954	136,261	1959-60 to 1967-68	1968-69 to 1972-73
1955	139,554	1960-61 to 1968-69	1969-70 to 1973-74
1956	143,516	1961-62 to 1969-70	1970-71 to 1974-75
1957	150,920	1962-63 to 1970-71	1971-72 to 1975-76
1958	152,637	1963-64 to 1971-72	1972-73 to 1976-77
1959	157,124	1964-65 to 1972-73	1973-74 to 1977-78
1960	159,245	1965-66 to 1973-74	1974-75 to 1978-79
1961	157,663	1966-67 to 1974-75	1975-76 to 1979-80
1962	156,053	1967-68 to 1975-76	1976-77 to 1980-81
1963	155,089	1968-69 to 1976-77	1977-78 to 1981-82
1964	152,729	1969-70 to 1977-78	1978-79 yo 1982-83
1965	141,610	1970-71 to 1978-79	1979-80 to 1983-84
1966	131,942	1971-72 to 1979-80	1980-81 to 1984-85
1967	127,309	1972-73 to 1980-81	1981-82 to 1985-86
1968	126,257	1973-74 to 1981-82	1982-83 to 1986-87
1969	130,398	1974-75 yo 1982-83	1983-84 to 1987-88
1970	134,724	1975-76 to 1983-84	1984-85 to 1988-89
1971[2]	130,395	1976-77 to 1984-85	1985-86 to 1989-90
1972	-	1977-78 to 1985-86	1986-87 to 1990-91
1973	-	1978-79 to 1986-87	1987-88 to 1991-92
1974	-	1979-80 to 1987-88	1988-89 to 1992-93
1975	-	1980-81 to 1988-89	1989-90 to 1993-94
1976	-	1981-82 to 1989-90	1990-91 to 1994-95

Sources: [1]Vital Statistics, 1941 to 1970, Statistics Canada.

[2]Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

sonable degree of accuracy the years when most students will be enrolled in school, particularly up to the end of the compulsory school attendance period.

Impact of Live Births on Enrolment

The direct relationships between fluctuations in the number of live births and the numbers enrolled in later years can be illustrated by specific examples (Table 5 and Table 8). Between 1945 and 1946, the live birth rate rose sharply from 19.7 per thousand population to 23.8, or 4.1 points, and the number of live births increased from 78,974 to 97,446, or by 18,472. In 1947, there was another sharp rise in both statistics, with the birth rate reaching 26.1 and the number of live births 108,853, for an increase of 11,407. For the years 1948 to 1950, the birth rate was somewhat lower and then it continued to rise each year to a high of 26.8 in 1957. During each of the years between 1949 and 1957, the number of live births continued to increase until it reached 150,920 in 1957. In 1958, the live birth rate began to decline and continued to do so until it reached 16.9 in 1971. While the number of live births continued to rise until 1960, reaching 159,245, a decline then set in and persisted until 1968 when the number was 126,257. A slight reversal in the number of live births then took place for the years 1969 and 1970, but a lower figure was again shown in 1971 at 130,395.

As might be expected, these fluctuations in the number of live births are reflected by similar variations in enrolment in grade 1 six years later. There is no exact parallel because of the effect of other factors such as mortality and migration, but a comparison of the number of live births and the enrolment in grade 1 six years later illustrates the relationship (Table 8). For example, a percentage increase of 7.9 in the number of live births in 1952 resulted in an increase in enrolment in grade 1 of 6.1 per cent in 1958-59. A decline of 7.3 per cent in live births in 1965 showed a decline in enrolment of 7.2 per cent in 1971-72.

After 1946-47, enrolments by single year of age for children five to ten years old showed a generally increasing percentage of the total until 1956-57 when

TABLE 8

INCREASE IN LIVE BIRTHS[1], 1941 to 1967, and INCREASE IN ENROLMENT[2] IN GRADE 1, 1947-48 to 1971-72, ONTARIO

Year	Live Births	Annual Increase	Percentage Increase	School Year	Total Enrolment[a,b] in Grade 1	Annual Increase	Percentage Increase
1941	72,262	-	-	1947-48	82,748	-	-
1942	78,192	5,930	8.2	1948-49	88,871	6,123	7.4
1943	81,173	2,981	3.8	1949-50	92,449	3,578	4.0
1944	78,090	-3,083	-3.8	1950-51	-	-	-
1945	78,974	884	1.1	1951-52	-	-	-
1946	97,446	18,472	23.4	1952-53	-	-	-
1947	108,853	11,407	11.7	1953-54	-	-	-
1948	104,195	-4,658	-4.3	1954-55	-	-	-
1949	106,601	2,406	2.3	1955-56	123,998	-	-
1950	108,708	2,107	2.0	1956-57	127,193	3,195	2.6
1951	114,827	6,119	5.6	1957-58	133,705	6,512	5.1
1952	123,891	9,064	7.9	1958-59	141,921	8,216	6.1
1953	129,771	5,880	4.7	1959-60	146,565	4,644	3.3
1954	136,261	6,490	5.0	1960-61	152,291	5,726	3.9
1955	139,554	3,293	2.4	1961-62	154,081	1,790	1.2
1956	143,516	3,962	2.8	1962-63	157,234	3,153	2.0
1957	150,920	7,404	5.2	1963-64	161,807	4,573	2.9
1958	152,637	1,717	1.1	1964-65	165,156	3,349	2.1
1959	157,124	4,487	2.9	1965-66	169,329	4,173	2.5
1960	159,245	2,121	1.3	1966-67	173,339	4,010	2.4
1961	157,663	-1,582	-1.0	1967-68	173,516	177	.1
1962	156,053	-1,610	-1.0	1968-69	171,493	-2,023	-1.2
1963	155,089	-964	-.6	1969-70	169,697	-1,796	-1.0
1964	152,729	-2,360	-1.5	1970-71	167,091	-2,606	-1.5
1965	141,610	-11,119	-7.3	1971-72	155,051	-12,040	-7.2
1966	131,942	-9,668	-6.8				
1967	127,509	-4,433	-3.4				

Notes: [a] Net enrolment 1947-48 to 1949-50.

[b] Enrolment for grade 1 was not published as a separate statistic between 1950-51 and 1954-55.

Sources: [1] Vital Statistics, 1941 to 1970, Statistics Canada.

[2] Reports of the Minister of Education, 1947 to 1971.

the cumulative percentage total for the six years (five to ten inclusive) reached a peak.

An attempt was made to analyse the ages at which students were enrolled in the various grades since 1946-47. The variety of methods by which data have been aggregated and published through the years and the development of the ungraded school make comparability of grade by age impossible. It has been established, however, that there has been a shift in the median age of pupils enrolled at particular levels. One study, published in 1962, maintained that the pupil in his first year of school after kindergarten was five months younger than the grade 1 pupil 25 years earlier.[1] In 1966-67, the median age of those enrolled in grade 1 was 6.4 years compared with 7.0 years, the median age in 1961-62. At the secondary level, the median ages for each of grades 9 to 13 in 1961-62 were 15.1, 16.1, 17.1, 18.0 and 18.8 respectively. By 1966-67, the corresponding median ages had declined to 14.6, 15.7, 16.6, 17.6 and 18.4. At the time of this report, age-grade statistics were not available for 1971-72.

Dependency Ratios

The ages at which children are enrolled in school and the range of years of probable school attendance, in relation to the number of people in the labour force, are significant in terms of the cost of education and the financial burden to provide education placed on those who form the productive labour force in the population. Dependency ratios are calculated to determine the number of people dependent on the working age group of a population (Table 9). The method used is to combine the number of those under 15 years of age with the number 65 years of age and above to obtain the numerator. The number of those 15 to 64 years of age, considered to be the labour force age group, is the denominator. The ratio multiplied by 100 indicates the number of dependent individuals per hundred members of the labour force.

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[1] Lyle, P. M., and Ellis, M. D., "Some Changes in Age-grade Distributions in Ontario During the Quarter Century, 1936-1961", Ontario Journal of Educational Research, Vol. V, No. 1, Autumn, 1962, pp. 47-57.

TABLE 9

POPULATION[1] BY AGE GROUP AND DEPENDENCY RATIOS, ONTARIO

CENSUS YEARS 1901 to 1971

Year	Population of Dependents by Age Group (Excluding Age Group 15-19) 0-14	65+	Total	Age Group 15-64	Dependency Ratio
1901	685,231	120,563	805,794	1,377,153	58.51
1911	741,244	142,796	884,040	1,643,252	53.80
1921	885,434	172,251	1,057,685	1,875,977	56.38
1931	958,999	234,161	1,193,160	2,238,523	53.30
1941	924,243	301,325	1,225,568	2,562,087	47.83
1951	1,239,314	400,363	1,639,677	2,957,865	55.43
1956	1,618,425	454,375	2,072,800	3,332,133	62.21
1961	2,007,749	508,073	2,515,822	3,720,270	67.62
1966	2,204,075	567,722	2,771,797	4,189,073	66.17
1971	2,208,490	644,410	2,852,900	4,850,205	58.82

	Population of Dependents by Age Group (Including Age Group 15-19) 0-19	65+	Total	Age Group 20-64	Dependency Ratio
1901	914,976	120,563	1,035,539	1,147,408	90.25
1911	982,077	142,796	1,124,873	1,402,419	80.21
1921	1,140,367	172,251	1,312,618	1,621,044	80.97
1931	1,277,982	234,161	1,512,143	1,919,540	78.78
1941	1,263,359	301,325	1,564,684	2,222,971	70.39
1951	1,554,999	400,363	1,955,362	2,642,180	74.01
1956	1,965,275	454,375	2,419,650	2,985,283	81.05
1961	2,444,632	508,073	2,952,705	3,283,387	89.93
1966	2,803,272	567,722	3,370,994	3,589,876	93.90
1971	2,921,855	644,410	3,566,265	4,136,840	86.21

Source: [1]Census of Canada, 1901 to 1971, Statistics Canada.

If the age grouping for the calculation of dependency ratios were altered to include those 15 to 19 years of age, as part of the numerator, the dependency ratios would change significantly (Table 9). The inclusion of the age group 15-19 in the dependency classification is justified to a considerable extent by the fact that in 1971-72, 62.6 per cent of this age group in Ontario was enrolled in the secondary schools.

Natural Increase

While the number of live births makes the largest and most significant contribution to population change, the number of deaths is subtracted to arrive at the annual net increase in population exclusive of migration. The usual excess of births over deaths is referred to as "natural increase" (Table 5 and Graph 4). When the birth rate reached a high of 26.8 per thousand population in 1957, the rate of natural increase was also at the peak of 18.1 per thousand population. With the subsequent sharp decline in birth rates, the rates of natural increase have been declining as well. The accompanying and continuing but slower decline in mortality rates has tended to maintain the rate of natural increase at a slightly higher level than would otherwise have been the case.

Natural increase has, of course, been the dominant factor in population growth in Ontario. One study[2] indicates that this has been the case for all provinces in Canada since 1901. During the years 1941 to 1951, natural increase accounted for 64.3 per cent of the total increase in population,[3] while for the period 1951 to 1961 it declined to 58.2 per cent.[4] For the period 1961 to 1971,

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[2]George, M. V., Internal Migration in Canada, Demographic Analyses, Dominion Bureau of Statistics, Ottawa, 1970, p. 78.

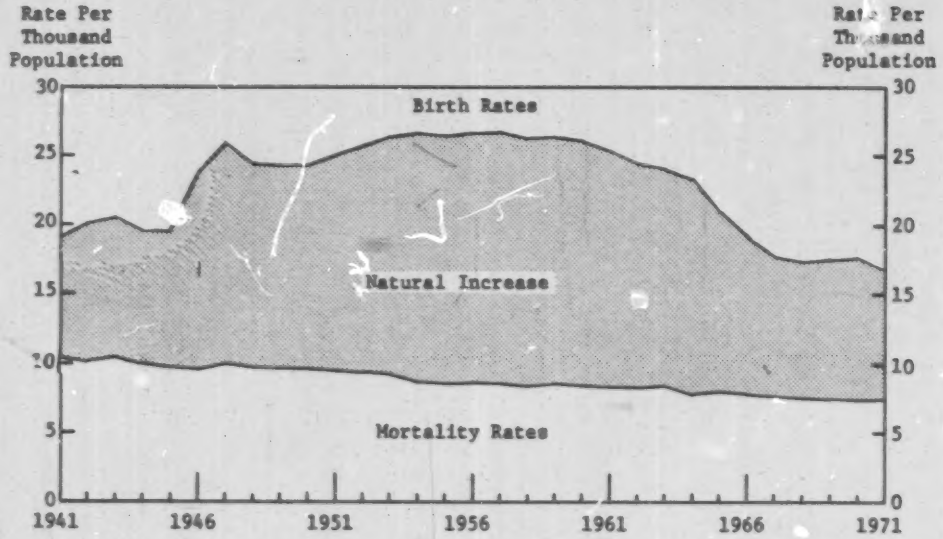
[3]Kogler, R., "An Analysis of Population Growth Trends in Ontario", Ontario Economic Review, Vol. 7, No. 6, Nov/Dec., 1969, p. 12.

[4]MacLeod, Betty, Ivison, Carol, and Bidani, Nirmala, Patterns and Trends in Ontario Population, Department of Educational Planning, The Ontario Institute for Studies in Education, Toronto, 1972, p. 23.

GRAPH 4

BIRTH, MORTALITY, AND NATUPAL INCREASE RATES, ONTARIO

1941 to 1971



Source: Table 5.

there was a return to a higher proportion at 64.5 per cent. Because of the substantial contribution of live births to natural increase in population and the significance of the number of live births for school enrolments, it is relevant to examine the factors that contribute to the fluctuations in the number of live births from year to year and from period to period.

CHAPTER 5
FERTILITY

Many of the developments in our rapidly-changing society have a profound influence on the emphasis we place on traditional aspects of life. No place is this more clearly demonstrated than in the attitude to childbearing in recent years. Immediately after World War II, the birth rates rose dramatically, maintained a high level in the 1950's, and then declined rapidly in the 1960's. In the latter decade, society appears to have had a change of mind regarding the priority given to the number of children in the family. This development is not unique to Ontario or Canada since many of the developed countries of the Western hemisphere have also shown a continuing decline in their birth rates. Fertility analysis attempts to examine the variety of factors that directly or indirectly influence the number of births. It endeavours to explain statistically, through better and more efficient measures, the changes in the numbers of births and to account for them in a more sophisticated way than the mere statement of birth rates per thousand population. It is in the area of longer-range planning for school enrolments that fertility factors become most important.

Number of Women of Childbearing Ages in Ontario in 1971

The childbearing years in the life of a female are considered to be, at the extremes, between the ages of 15 and 49. The number of births among those outside these age limits is not significant. The numbers and percentages of women in the childbearing years are shown by five-year age categories (Table 10 and Table 11). In 1971, there was a substantial increase in the numbers in each of the age groups 15-19 and 20-24. These age groups are made up mainly of the survivors of the large numbers of live births in the period between 1946 and 1956. There was also an increase in the 25-29 age group. An actual decrease is observed in the age groups 30-34, 35-39, and 40-44, attributable to the low birth rates of the Depression and World War II years. The age group 45-49 shows a modest increase. The total number of women in the childbearing ages was 1,905,920, or 49.4 per cent of the total female population. The trends in the number of women aged 15 to 49 in relation to the total female population and to the total population from 1941 to 1971 are shown in Graph 5.

TABLE 10

WOMEN OF CHILDBEARING AGES BY AGE GROUP, ONTARIO[1,2]

1941 to 1971

Year	Age Group							Total Women Aged 15-49	Total Female Population
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
1941	166,983	160,410	155,783	140,912	129,275	122,034	113,208	988,605	1,866,454
1942	167,600	169,100	161,100	146,900	132,900	124,500	115,400	1,017,500	1,917,600
1943	164,600	171,800	159,800	149,300	134,200	125,100	116,400	1,021,200	1,933,400
1944	164,100	174,000	160,100	152,800	136,500	126,200	117,900	1,031,600	1,958,400
1945	163,500	175,200	163,100	156,200	139,400	127,800	119,500	1,044,700	1,985,400
1946	163,300	175,400	168,800	160,100	144,600	130,600	121,800	1,064,600	2,028,700
1947	161,900	175,600	171,200	162,200	147,900	133,700	123,400	1,075,900	2,069,600
1948	160,300	175,800	175,100	165,000	152,700	136,000	125,200	1,090,100	2,116,100
1949	159,000	175,900	181,900	168,400	157,000	139,500	127,700	1,109,400	2,167,500
1950	157,400	175,700	188,800	173,200	162,000	143,600	128,700	1,129,400	2,221,300
1951	155,495	175,431	196,978	177,324	168,103	147,488	129,631	1,150,450	2,283,372
1952	158,900	177,400	199,400	180,000	174,600	154,100	133,800	1,186,200	2,375,500
1953	161,800	179,000	201,000	185,700	179,600	159,400	137,800	1,214,300	2,449,100
1954	165,300	180,400	202,600	205,600	185,100	165,500	142,800	1,247,300	2,535,000
1955	168,200	181,500	203,900	213,300	190,100	170,800	147,200	1,275,000	2,612,200
1956	170,826	182,762	205,381	221,862	195,014	175,975	151,117	1,302,937	2,683,414
1957	178,500	189,600	212,200	228,400	206,800	181,000	156,800	1,353,300	2,796,000
1958	188,800	193,600	214,200	229,700	215,900	185,600	162,200	1,390,000	2,890,100
1959	195,600	193,600	211,900	230,200	223,700	190,200	167,600	1,412,800	2,963,200
1960	204,600	195,400	210,800	229,000	230,700	194,400	172,700	1,437,600	3,026,300
1961	213,824	196,598	209,064	225,986	236,485	197,260	176,842	1,456,059	3,101,564
1962	228,200	199,300	206,000	222,500	237,800	203,900	179,900	1,477,600	3,163,500
1963	247,800	205,700	204,800	219,100	235,900	212,000	182,300	1,507,600	3,233,200
1964	266,100	215,900	207,100	218,500	234,000	221,600	185,100	1,548,300	3,313,000
1965	281,200	227,800	210,700	219,600	232,700	230,000	189,300	1,590,300	3,393,200
1966	294,543	244,378	218,443	220,550	232,978	236,400	195,501	1,642,793	3,481,721
1967	307,100	263,400	230,700	224,400	233,600	241,100	203,900	1,704,200	3,575,800
1968	318,400	280,500	243,700	227,300	233,600	242,500	213,800	1,759,800	3,656,200
1969	327,000	298,400	255,800	231,500	233,200	242,100	224,200	1,812,200	3,730,200
1970	339,300	316,500	272,900	238,600	234,800	241,800	233,500	1,877,400	3,825,000
1971	351,215	336,255	280,670	236,105	229,265	232,150	237,260	1,905,920	3,862,200

Sources: [1] Census of Canada, 1941, 1951, 1956, 1961, 1966 and 1971, Statistics Canada.

[2] Figures for other than census years are estimates of Statistics Canada.

TABLE 11

WOMEN OF CHILDBEARING AGES BY AGE GROUP AS PERCENTAGE OF TOTAL FEMALE POPULATION, ONTARIO 1941 to 1971

Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Women Aged 15-49 as a Percentage of Female Population
1941	9.0	8.6	8.4	7.6	6.9	6.5	6.1	53.0
1942	8.7	8.8	8.4	7.7	6.9	6.5	6.0	53.1
1943	8.5	8.9	8.3	7.7	6.9	6.5	6.0	52.8
1944	8.4	8.9	8.2	7.8	7.0	6.4	6.0	52.7
1945	8.2	8.8	8.2	7.9	7.0	6.4	6.0	52.6
1946	8.1	8.7	8.3	7.9	7.1	6.4	6.0	52.5
1947	7.8	8.5	8.3	7.8	7.2	6.5	6.0	52.0
1948	7.6	8.3	8.3	7.8	7.2	6.4	5.9	51.5
1949	7.3	8.1	8.4	7.8	7.2	6.4	5.9	51.2
1950	7.1	7.9	8.5	7.8	7.2	6.5	5.8	50.8
1951	6.8	7.7	8.6	7.8	7.4	6.5	5.7	50.4
1952	6.7	7.5	8.4	7.9	7.4	6.5	5.6	49.9
1953	6.6	7.3	8.2	8.0	7.3	6.5	5.6	49.6
1954	6.5	7.1	8.0	8.1	7.3	6.5	5.6	49.2
1955	6.4	7.0	7.8	8.2	7.3	6.5	5.6	48.8
1956	6.4	6.8	7.7	8.3	7.3	6.6	5.6	48.6
1957	6.4	6.8	7.6	8.2	7.4	6.5	5.6	48.4
1958	6.5	6.7	7.4	8.0	7.5	6.4	5.6	48.1
1959	6.6	6.5	7.2	7.8	7.6	6.4	5.7	47.7
1960	6.7	6.4	6.9	7.5	7.6	6.4	5.7	47.4
1961	6.9	6.3	6.7	7.3	7.6	6.4	5.7	47.0
1962	7.2	6.3	6.5	7.0	7.5	6.5	5.7	46.7
1963	7.7	6.4	6.3	6.8	7.3	6.6	5.6	46.6
1964	8.0	6.5	6.3	6.6	7.1	6.7	5.6	46.7
1965	8.3	6.7	6.2	6.4	6.9	6.8	5.6	46.9
1966	8.5	7.0	6.3	6.3	6.7	6.8	5.6	47.2
1967	8.6	7.4	6.5	6.3	6.5	6.7	5.7	47.7
1968	8.7	7.7	6.7	6.2	6.4	6.6	5.9	48.1
1969	8.8	8.0	6.9	6.2	6.3	6.5	6.0	48.6
1970	8.9	8.3	7.1	6.2	6.1	6.3	6.1	49.1
1971	9.1	8.8	7.3	6.1	5.9	6.0	6.1	49.4

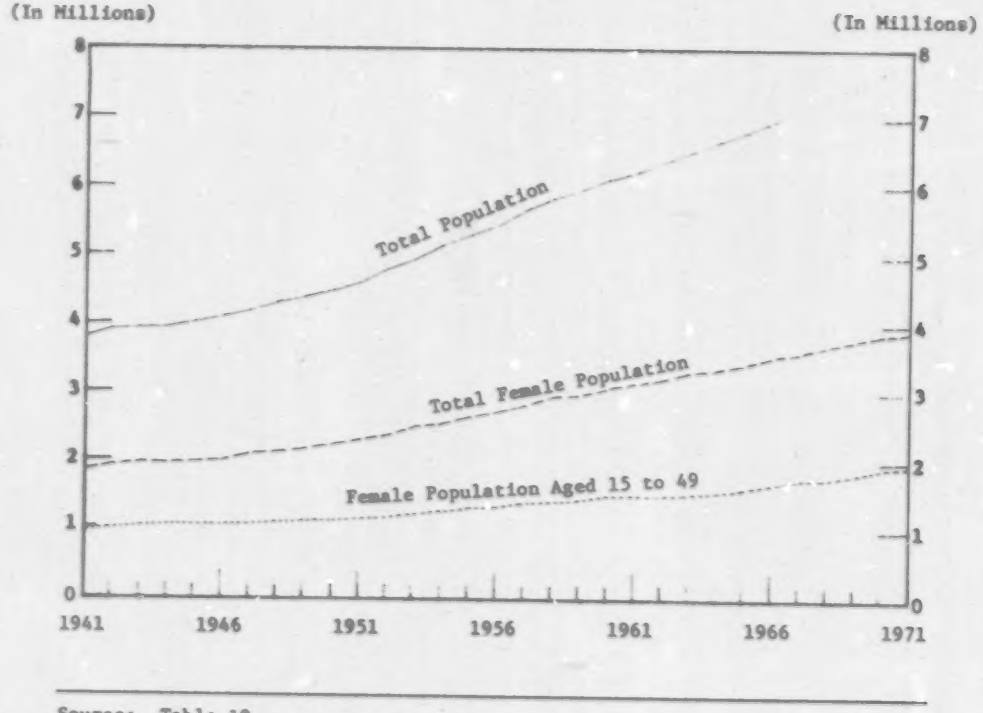
Note: Totals may not be the same as sum of figures in distributions because of rounding.

Source: Table 10.

GRAPH 5

WOMEN OF CHILDBEARING AGES, ONTARIO

1941 to 1971



Source: Table 10.

Fertility Rates

Because of the vagueness and inadequacy of the rates of live births per thousand population as a basis for forecasting population, demographers have developed methods of relating the number of live births to the women of childbearing ages of the population to secure various measures of fertility. Fertility rates are calculated on the basis of the number of births to women of childbearing ages within a given population. The "age-specific fertility rate" is the birth rate per thousand women in the respective age group. Among the seven age groups of the childbearing years, the age groups 20-24 and 25-29 have consistently shown the highest age-specific fertility rates (Table 12 and Graph 6). In 1971, they accounted for 67.1 per cent of all the live births in Ontario. Within these two age groups, however, the age-specific fertility rates have been declining rapidly since 1960, with a trend to lower rates also evident for all other age groups. The percentage declines, from the highest rate after 1941 to the rate for 1971, for the seven age groups in ascending age group order are 39.3, 43.1, 32.8, 42.9, 58.0, 65.5, and 81.0 respectively.

The "total fertility rate" is the sum of the age-specific fertility rates for the seven age groups multiplied by five to take into account the five years in each age group. The product "represents the number of births that one thousand women would have throughout their lifetime, assuming no mortality, if they experienced at each age the fertility in effect during the period concerned."[1] (Table 12 and Graph 6). The highest total fertility rate of 3,793 was reached in 1960. On the basis of this fertility rate, each woman would have an average of slightly less than 3.8 children during her lifetime. The rate has declined substantially since 1960 to a low of 2,221 in 1971, or an average slightly in excess of 2.2 children per woman.

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[1] Vital Statistics, 1969, Dominion Bureau of Statistics, Ottawa, February, 1972, p. 15.

TABLE 12

AGE-SPECIFIC FERTILITY RATES, ONTARIO[1]

1941 to 1971

Year	Age Specific Fertility Rate[a]							Total Fertility Rate[b]	Gross Reproduction Rate[c]	General Fertility Rate[d]
	15-19	20-24	25-29	30-34	35-39	40-44	45-49			
1941	36.8	133.3	137.3	96.3	55.9	19.1	1.7	2,403	1.164	73.1
1946	40.4	166.9	169.7	123.2	70.0	21.7	2.1	2,970	-	-
1951	60.1	186.4	181.8	125.2	68.1	21.0	1.9	3,222	1.560	99.8
1956	66.9	225.8	205.7	135.6	73.2	22.6	1.6	3,657	1.780	110.1
1957	73.0	228.7	209.0	133.3	74.2	22.6	1.9	3,714	1.806	111.5
1958	70.6	228.8	208.3	133.0	72.8	20.9	1.7	3,680	1.785	109.8
1959	71.7	239.5	214.7	133.3	73.0	20.8	1.7	3,773	1.834	111.2
1960	70.9	241.2	217.1	134.7	71.7	21.6	1.5	3,793	1.841	110.8
1961	69.5	239.8	211.6	134.2	69.8	21.9	1.6	3,742	1.824	108.3
1962	64.5	239.9	210.5	133.9	65.6	21.9	1.4	3,689	1.795	105.6
1963	60.3	233.7	208.1	133.1	66.2	21.1	1.2	3,618	1.759	102.9
1964	57.8	219.7	202.4	128.6	64.6	20.4	1.6	3,475	1.686	98.6
1965	58.3	192.9	180.6	114.5	59.3	17.8	1.5	3,125	1.521	89.0
1966	57.4	171.3	160.2	98.8	52.8	16.2	1.3	2,790	1.361	80.3
1967	53.4	162.0	149.2	88.6	45.9	13.4	1.0	2,567	1.247	74.8
1968	50.1	155.1	145.0	83.0	41.1	11.5	1.0	2,434	1.184	71.7
1969	49.5	152.5	148.4	82.3	38.3	10.7	0.8	2,412	1.174	72.0
1970	50.2	150.1	147.5	80.4	35.4	9.5	0.6	2,369	1.152	71.8
1971[2]	44.3	137.2	145.9	77.4	31.2	7.8	0.4	2,221	1.078	68.4

Notes: [a] Birth rate per 1,000 women in the respective age period.

[b] Sum of female age-specific fertility rates.

[c] Number of live daughters that would be born to a hypothetical female birth cohort of 1,000 women if subjected to current age-specific fertility rates, and assuming that mortality before age 50 is zero.

[d] Birth rate per 1,000 women 15-49 years.

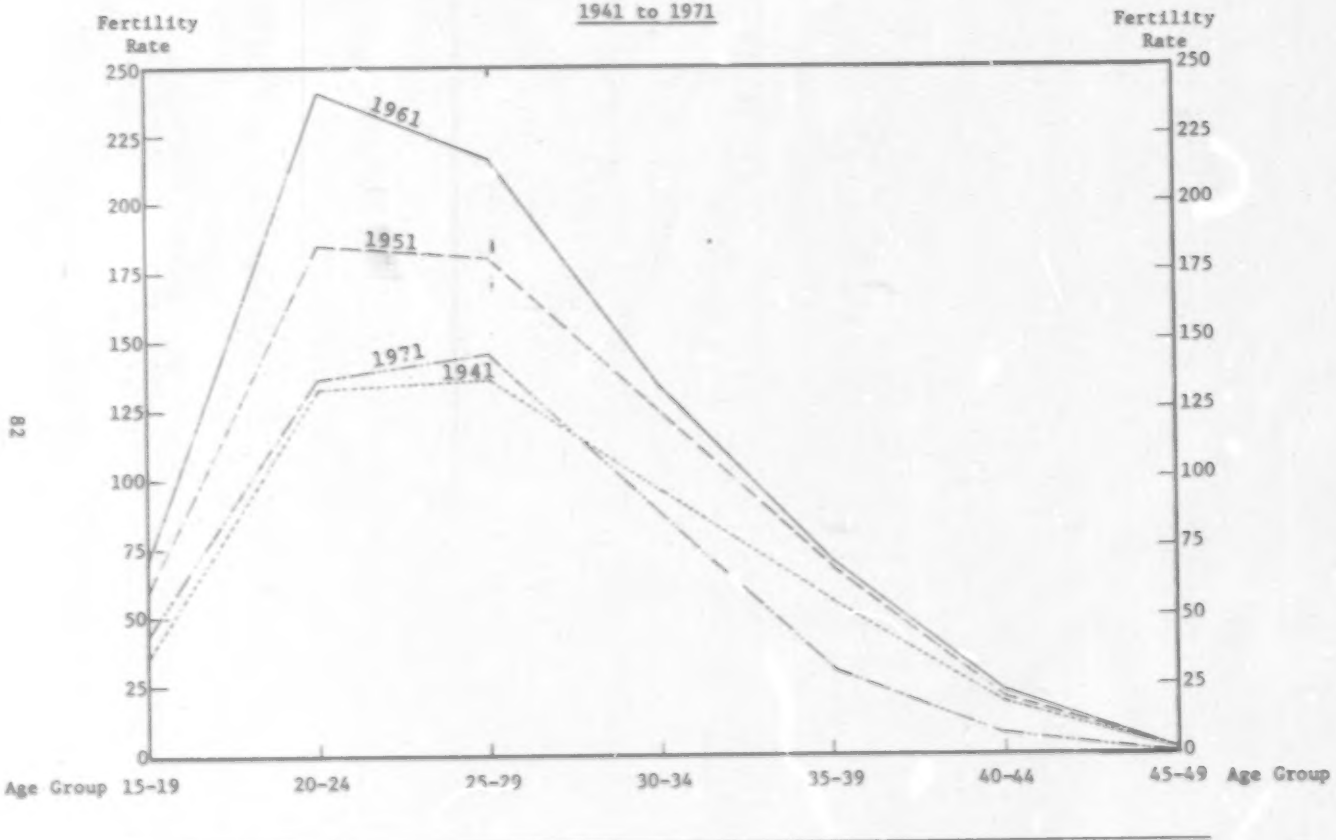
Sources: [1] Vital Statistics, 1968, 1969 and 1970, Statistics Canada.

[2] Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

GRAPH 6

FERTILITY RATES BY FIVE-YEAR AGE GROUP, ONTARIO

1941 to 1971



Source: Table 12.

The "gross reproduction rate" is a measure of the total number of female children born to each per thousand women in the childbearing years 15 to 49. A decline in the total fertility rate means, of course, that the gross reproduction rate will also decline. In 1960, it showed an average of 1.8 female children per woman but since then has declined steadily until it reached 1.1 in 1971. Since these rates are calculated on the assumption of zero mortality, allowance for the number of deaths among female children results in a net reproduction rate that may be interpreted as the measure of replacement, that is, the ratio of total daughters to potential mothers.[2] Fertility rates, including the child/woman ratio but excluding the net reproduction rates, are available for each of the counties and districts in Ontario for the years 1961 to 1969.[3]

Order of Birth

Another measure of fertility is obtained through analysis of the number of children born to mothers by order of birth as first child, second child, third child, and so on. In Ontario, the numbers of births of the first and second orders, as percentages of the total number of live births, have been increasing in recent years (Table 13). In 1951, the first order of births accounted for nearly 32 per cent of the total number of live births. It showed a decline in 1956, and in 1961 it reached a low of 27.6 per cent. In 1966, however, the first order of births showed an increase to account for 34.4 per cent, and in 1971 it accounted for 40.5 per cent of all live births. The second order of births showed a similar pattern of decline from 28.4 per cent of all live births to 26.2 per cent in 1956 and to 24.8 per cent in 1961. It gradually began to account for higher percentages of 26.2 in 1961 and 30.3 in

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[2] Spengler, J. J., and Duncan, O. D., Demographic Analyses, Selected Readings, The Free Press of Glencoe, Glencoe, Illinois, Second Printing, 1963, p. 145.

[3] Fertility Rates for Ontario Counties, Regions and Sub-regions, 1961-1969, (Mimeographed), Demographic Analysis Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, 1971.

1971. The proportion of higher orders of births - third, fourth, fifth, etc., - to the total number of live births, increased from 1951 to 1961 but has since declined in all orders to register sharply reduced percentages. By 1971, the percentages declined in all the higher orders. During periods of high fertility, the first two orders have accounted for a lower proportion of total live births while during periods of low fertility the first two orders accounted for higher proportions of the total number of live births (Table 12 and Table 13). "A reduction in fertility is usually achieved at the expense of higher order births in families, that is by foregoing a third, fourth, etc., child in the family.

"During the period of declining fertility (1927 to 1941) the proportion of first births increased by 48.8 per cent, and remained high during 1941-47. From 1947 to 1963 - a period of high fertility in Ontario - the proportion of first births fell by 28.8 per cent, and between 1963 and 1966 - a period of declining fertility - they increased by 26.3 per cent.

"Conversely, the proportion of higher order births in families (six or more)

TABLE 13

LIVE BIRTHS BY ORDER OF BIRTH, ONTARIO[1]

CENSUS YEARS 1951 to 1971

Order of Birth	1951	1956[2]	1961	1966	1971
1st Child	36,685	42,167	43,449	45,438	52,793
2nd Child	32,652	37,635	39,146	34,581	39,521
3rd Child	20,462	26,782	29,913	22,193	20,186
4th Child	10,880	15,967	18,920	13,103	9,349
5th Child	5,593	8,756	10,915	7,135	4,087
6th Child	3,152	4,858	6,157	3,961	2,073
7th Child	1,946	2,833	3,573	2,227	1,070
8th Child and over	3,445	4,472	5,580	3,293	1,399
Not stated	12	46	10	11	17
Total	114,827	143,516	157,663	131,942	130,395

Sources: [1]Vital Statistics, 1951 and 1961 to 1971, Statistics Canada.
[2]Unpublished data from Statistics Canada.

fell during the period 1927-1941 by 40.3 per cent, remained low during 1941-47, increased by 37.5 per cent between 1947 and 1963, and fell by 25.3 per cent between 1963 and 1966."[4]

Marriage and Marriage Rates

The rates of marriage influence the rates of fertility (Table 14). The rate in 1951, which stood at 9.8 per thousand population, declined to 7.1 in 1961 and then showed an increase to 9.0 in 1971. The reason for the increase in the late 1960's and early 1970's was due largely to the greater number of children born immediately after World War II who were reaching the most common ages for marriage.

TABLE 14

MARRIAGES, ONTARIO

CENSUS YEARS 1941 to 1971

Year	Marriages	Rate Per 1,000 Population	Percentage of Brides Under 25 Years of Age
1941	43,270	11.4	63.6
1951	45,198	9.8	67.8
1961	44,434	7.1	73.3
1971	69,590	9.0	73.9

Source: Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

Births to Unmarried Mothers

The number of live births to unmarried mothers has shown an increase, especially during, and since, the 1960's (Table 15). An analysis of the age-specific birth rate among unmarried mothers shows that the rate has risen substantially in the

[4] Population Statistics - Ontario - 1969, (Mimeographed), Demographic Analysis Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, October, 1969, p. 19.

15-19 age group since 1963.[5]

TABLE 15

LIVE BIRTHS TO UNMARRIED MOTHERS, ONTARIO

SELECTED YEARS 1941 to 1971

Year	Total Live Births	Live Births to Unmarried Mothers	Per Cent
1941	72,262	3,384	4.7
1951	114,827	3,807	3.3
1961	157,663	5,456	3.5
1970	134,724	10,248	7.6
1971	130,395	8,492	6.5

Source: Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

Ages at Marriage

The influence of age at marriage on fertility rates is most significant (Table 12). Consequently, one would expect that lower ages at marriage along with higher rates of marriage would normally result in higher fertility rates. The average and median ages of brides and bridegrooms have been declining since 1941 (Table 16). Although an increase in the rates of marriage occurred after 1963, the rates of marriage during the decade of the 1960's remained below the rates observed for the decades of the 1940's and the 1950's.

Between 1961 and 1966, there was a decrease in Canada in the proportion of women married in the age group 15-19 from 8.7 per cent to 7.6 per cent and in the age group 20-24 from 59.2 per cent to 55.4 per cent. One of the reasons given for this decrease is that "the males in marriageable ages are out-num-

[5] Ivison, C., "Trends in Marriage and Illegitimacy: A Comparative Study of Canada, the Provinces, and the Economic Regions of Ontario", Demography and Educational Planning, Monograph Series No. 7, The Ontario Institute for Studies in Education, Toronto, 1970, pp. 183-204.

bered by females in corresponding ages. The relative excess of eligible brides is the result of the customary practice of women selecting older males for marriage. The conditions of availability were unfavourable for women between 1962 and 1966 or for the cohorts of women born between 1942 and 1946 when the ratios in the number of males aged 20-24 to the number of females aged 18-20 were less than 100. The unfavourable situation for women may be because female children born in the baby-boom period reached marriageable ages while the appropriate grooms represented the smaller cohorts born during the depression period."[6]

TABLE 16

AVERAGE AND MEDIAN AGES AT MARRIAGE OF SINGLE PERSONS (NEVER PREVIOUSLY MARRIED), ONTARIO[1]

CENSUS YEARS 1941 to 1971

	Average Age at Marriage		Median Age at Marriage	
Year	Bride	Groom	Bride	Groom
1941	24.2	27.2	22.7	25.8
1951	23.7	26.3	21.9	24.4
1961	22.8	25.6	21.0	23.8
1971[2]	22.6	24.9	-	-

Sources: [1]Vital Statistics, 1969, Statistics Canada.
[2]Unpublished data from Statistics Canada.

Divorces and Divorce Rates

The dissolution of marriages also affects fertility rates. In the past, divorce rates in Ontario and Canada have remained relatively low due mainly to the restrictions governing dissolution. In 1968, a new divorce law was enacted by the Federal Parliament providing for the filing of divorce petitions

[6]George, M. V., "Trends in Population Growth in Canada with Special Reference to the Decline in Fertility", Canada Year Book 1970-71, Dominion Bureau of Statistics, Ottawa, 1971, pp. 217-218.

on grounds other than adultery.[7] Within a year of the enactment of this legislation, there was a substantial increase in the number of divorces granted (Table 17).

In 1971, Ontario accounted for 41.1 per cent of all the divorces granted in Canada. While a good proportion of the divorces granted subsequent to 1968 represented a backlog from previous years, it remains to be seen whether the liberalization of the law will result in a sustained divorce rate at the levels established during the years 1969 to 1971 inclusive.

TABLE 17

DIVORCES GRANTED, ONTARIO
SELECTED YEARS 1941 to 1971

Year	Divorces	Rate Per 100,000 Population
1941	950	25.1
1951	2,109	45.9
1961	2,739	43.9
1968	5,036	69.3
1969	11,845	160.4
1970	12,451	164.9
1971	12,189	158.2

Source: Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

Women in the Labour Force

The increasing participation of women in the labour force in Ontario has contributed to the decline in fertility. There are more wage earners among women today than ever before (Table 18). The number and percentage of women entering

[7] The Divorce Act, 1967-68, Revised Statutes of Canada 1970, Vol. III, Chapter D-8, pp. 2499-2512.

the labour force have shown a marked increase since 1951. The number of females to every thousand males in the labour force in Ontario in 1921 was 211. By the year 1961, the figure had increased to 407,[8] and by 1971 it had reached 519. The participation rate of women in the labour force is the number of female workers as a percentage of the female population 15 years of age and over. This rate has been steadily increasing and doubled during the period from 1921 to 1971.

TABLE 18

WOMEN 15 YEARS OF AGE AND OVER IN LABOUR FORCE AND PARTICIPATION RATES, ONTARIO CENSUS YEARS 1921 to 1971

	Labour Force			
Year	Total (000)	Women (000)	Per Cent	Participation Rate
1921	1,111	194	17.5	19.1
1931	1,343	249	18.5	20.6
1941	1,452	315	21.7	22.3
1951	1,883	444	23.6	26.5
1961	2,393	692	28.9	32.6
1971	3,249	1,110	34.2	39.3

Source: Census of Canada, 1921 to 1971, Statistics Canada.

Education, Age at Marriage, and Fertility Rates of Married Working Women

Married female workers in Ontario increased from 15.8 per cent of the female labour force in 1941,[9] to 58.2 per cent in 1961,[10] and to 63.1 per cent in

[8] "The Canadian Labour Force", General Review - Census of Canada 1961, Bulletin 7.1-12, Catalogue: 99-522 (Vol: VII - Part: 1), Dominion Bureau of Statistics, 1967, p. 12-8.

[9] Census of Canada 1951: General Review and Summary Tables, Vol. X, Dominion Bureau of Statistics, Ottawa, 1956, pp. 66-3 and 66-4.

[10] Census of Canada 1961: Labour Force, Bulletin 3.1-11, 23-7-63, Catalogue: 94-511 (Vol: III - Part: 1), Dominion Bureau of Statistics, Ottawa, 1963, pp. 17-151 and 17-152.

December, 1971.[11] The educational attainment by age groups in Canada is shown in Table 19. The average age at marriage of women in selected age groups in Canada and their levels of education are shown in Table 20. Because levels of educational attainment dictate the types of jobs that individuals are qualified to fill and that are available to them, many women pursue their education to higher levels. Consequently, because they are enrolled longer in educational institutions, the average ages at marriage tended to be higher at increased levels of education.

TABLE 19

LABOUR FORCE PARTICIPATION RATES FOR MARRIED WOMEN BY AGE AND YEARS OF SCHOOLING, CANADA, 1961

	Elementary		Secondary		University	
Age of Wife	Less than 5	5 and Over	1-3	4-5	Some	Degree
15 and over	14.3	23.1	31.0	40.6	47.3	47.9
20-24	25.1	35.9	45.9	64.5	65.0	64.3
25-34	19.9	23.0	29.1	36.9	44.4	43.9
35-44	18.2	26.0	32.4	37.6	44.0	44.6
45-54	20.3	27.7	35.5	43.6	52.7	55.7
55-64	15.0	20.8	27.6	34.4	43.0	50.6

Source: Ostry, Sylvia, The Female Worker in Canada, Census Monograph, Dominion Bureau of Statistics, Ottawa, 1961, p.30.

[11] The Labour Force, December, 1971, Catalogue 71-001, Vol. 27, No. 12, Statistics Canada, Ottawa, January, 1972, p. 40.

TABLE 20

AVERAGE AGE AT MARRIAGE OF EVER MARRIED WOMEN BY AGE AND YEARS OF SCHOOLING, CANADA, 1961

Age of Wife	Years of Schooling			
	Elementary or Less	Secondary	University	
			Some	Degree
	Average Age at Marriage			
25-29	20.15	20.65	22.10	22.97
35-39	21.79	22.56	23.96	25.26
45-49	23.17	24.61	26.27	27.23

Source: Ostry, Sylvia, The Female Worker in Canada, Census Monograph, Dominion Bureau of Statistics Ottawa, 1961, p. 28.

Based on the same population sample, fertility rates were calculated for the women by age and schooling. Table 21 shows the results for selected age groups. The two age groups, 20-24 and 25-29, that account for the highest percentages of live births showed lower rates of fertility at increased levels of education. The participation rate of women in the labour force, the proportion of married women in the female labour force, and the level of education of these married women all contribute to the determination of the fertility rates.

Contraception and Fertility

While many factors, such as the number of women who marry, the age at marriage, and the duration of marriages, contribute to changes in fertility rates, the most significant influence is the effective measures by which births are controlled within marriage. The oral contraceptive method has become the most widely practised method of birth control because of availability of the pill, its ease of use, and predictable results in the avoidance of unwanted pregnancies. The effect of general acceptance of this method is seen in the decline in birth rates, especially in the late 1960's. One writer has expressed the situation in these words:

TABLE 21

FERTILITY RATES AND PERCENTAGE OF CHILDLESS WOMEN
BY AGE AND YEARS OF SCHOOLING, CANADA, 1961

Age of Wife	Years of Schooling							
	Elementary or Less		Secondary		Some University		University Degree	
	Fertility Rate[a]	Percentage Childless	Fertility Rate[a]	Percentage Childless	Fertility Rate[a]	Percentage Childless	Fertility Rate[a]	Percentage Childless
15-19	840	37.78	693	44.02	233	79.09	-	100.00
20-24	1,576	19.63	1,266	27.71	776	45.23	553	56.73
25-29	2,527	10.25	2,066	14.31	1,606	22.39	1,326	28.57
30-34	3,207	7.91	2,572	10.39	2,260	13.72	2,157	14.89
35-39	3,678	7.85	2,777	9.71	2,548	11.47	2,498	13.06
40-44	3,962	8.78	2,785	11.18	2,523	13.35	2,506	13.75
45-49	3,844	11.08	2,594	14.50	2,268	15.97	2,163	17.72

Note: [a]Number of children born per thousand women ever married.

Source: Ostry, Sylvia, The Female Worker in Canada, Census Monograph, Dominion Bureau of Statistics, Ottawa, 1961, p. 29.

"The trend in fertility rates since 1959 fits in well with the hypothesis that the decline has been due to the widespread use of the contraceptive pill.....

"Perhaps a major effect of the use of the pill might have been longer postponement of births and avoidance of unwanted conceptions mainly because of its greater efficiency than other contraception methods."[12]

An enquiry undertaken in Metropolitan Toronto in the mid 1960's to analyse the use of oral contraceptives on the basis of a probability sample of married women of childbearing ages, revealed that 28.9 per cent of the sample were using the pill at the time of the survey and that 31.3 per cent were using other methods of contraception.[13] Among those who were not using oral contraceptives, 21.1 per cent were planning to use them and 68.9 per cent did not intend to use oral contraceptives at all. The uncertain category constituted 10 per cent. Thus, about half the women in the sample were either using, or planning to use, oral contraceptives. Although this study indicates a substantial increase in the use of the pill since 1961, when it first became available on a prescription basis in Canada, the researchers concluded that the rapid increase in the levels of usage came to an end in 1966.[14]

Future Fertility

Future fertility rates are hard to predict, mainly because of the many variables that combine to account for fertility from year to year. The problem

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[12] Canada Year Book 1970-71, p. 219.

[13] Allingham, J. D., Balakrishnan, T. R., and Kantner, J. R., "The End of Rapid Increase in the Use of Oral Anovulants? Some Problems in the Interpretation of Time Series of Oral Use Among Married Women", Demography, Vol. 7, No. 1, February, 1970, pp. 31-41.

[14] Allingham, J. D., Balakrishnan, T. R., and Kantner, J. R., "Time Series of Growth in Use of Oral Contraception and the Differential Diffusion of Oral Anovulents", Population Studies, Vol. XXIII, No. 1, March, 1969, pp. 43-51.

is that "We don't know why people get married when they do, nor what they base their decisions about birth intervals on, nor whether the woman (or the man) has an age in mind beyond which another child would be quite undesirable, nor what is considered to be a desirable age structure for a family - that is, the age structure of the children, but also the age difference ("generation gap") between children and parents."[15]

A reasonable observation about prospects for the future is that "As for absolute number of births and crude birth rate, they are likely to increase in the near future even if the current fertility rates do not increase, because of the expected increase in the size of the future childbearing population. According to the DBS current population estimates and most recent population projections (Series B), between 1968 and 1971, the number of women in the most reproductive age groups, 20-24 and 25-29, will increase from 829,000 to 952,200 and from 682,800 to 795,000, respectively."[16] Another authority has stated that "Although the size of the family may decline, the numbers of births and the crude birth rate in Ontario probably will increase slightly during the first half of the '70s. Towards the close of the '70s, the number of young women entering prime childbearing ages will begin to fall, reflecting the low fertility after 1957, and births will then drop both in terms of numbers and crude rates, unless there is some further alteration in childbearing patterns."[17]

The various factors that influence fertility and the measures of fertility indicate the present tendency towards the formation of smaller family units. In a situation where both the husband and wife are wage earners, conditions are not so conducive to bringing up a family as in the traditional pattern, where

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[15] Ryder, N. B., "Evaluation and Assessment: Session on Fertility", Demography and Educational Planning, Monograph Series No. 7, The Ontario Institute for Studies in Education, Toronto, 1970, p. 244.

[16] Canada Year Book 1970-71, p. 220.

[17] MacLeod, Betty, Ivison, Carol, and Bidani, Nirmala, Patterns and Trends in Ontario Population, Department of Educational Planning, The Ontario Institute for Studies in Education, Toronto, 1972, p. 299.

the female limits her role to that of mother and housewife. Couples may limit the size of their families so that both parents may seek employment outside the home.

Fertility Pattern and Enrolment

An important conclusion to be drawn from the fertility pattern of the past few years and the reduced number of live births in the 1960's, is that school enrolments will continue to decline, especially at the school entrance levels, for several years. The decline in enrolment will be acute first in the early years of the elementary school and then at the secondary level as the pupils move through the system. Maintenance of anything like the high levels of enrolment of the 1960's could only be achieved as a result of large scale migration of school-age children into the province. The prospects for such a development are slim or non-existent.

The lack of in-depth research regarding fertility in Ontario in the early 1960's, and before, meant that the opportunity to foresee the effect of this most important influence on future enrolments was not available to the decision-makers and the few planners who might have benefited from it. Indeed, almost all aspects of possible research in demography have, until quite recently, received very little attention. We hope, however, that the growing awareness of the need for accurate information regarding population and its components, as essential elements in the planning processes, will generate enough interest and support to ensure meaningful research in demography in Ontario. Among the few studies that have been done, the work under the auspices of the Department of Educational Planning of The Ontario Institute for Studies in Education, and the Demographic Studies Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs are of special significance.

CHAPTER 6
MORTALITY

An important aspect of the study of population is the number of deaths that occur annually. Mortality rates in Canada have declined steadily during the period since World War II (Table 5 and Graph 7). In 1941, the general mortality rate was 10.4 per thousand population and in 1970 it was 7.4. It remained at the latter level in 1971. For a number of reasons, the mortality rates are higher for the male population than for the female population. In 1941, the rates were 11.2 and 9.5 respectively while, by 1971, they had declined to 8.4 and 6.3. In the thirty years, the death rate for males showed a decline of 25.0 per cent while for females the decline was 33.7 per cent.

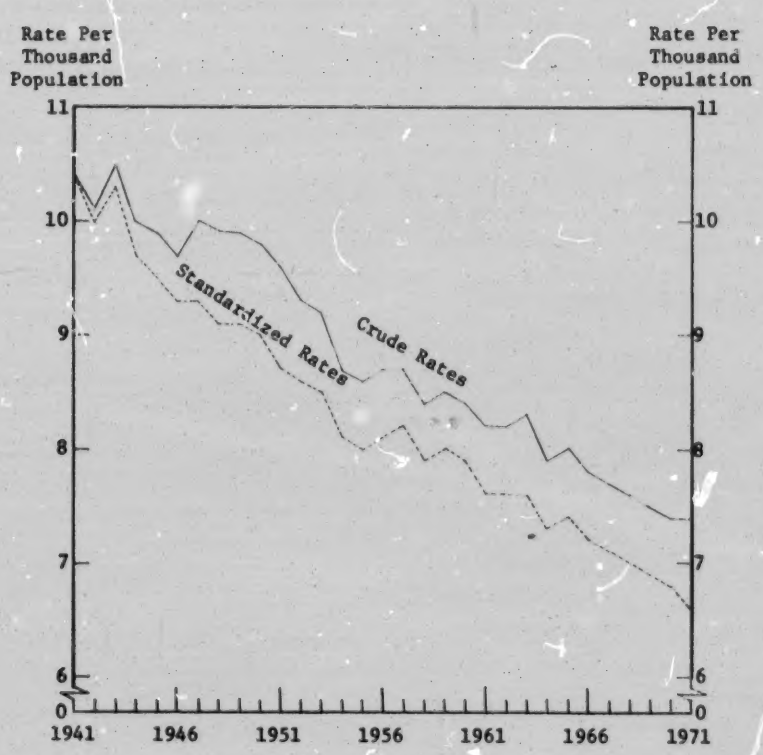
The sharp reduction in infant mortality has contributed greatly to the observed decline in the general mortality rates. Between 1941 and 1971, the infant mortality rate per thousand live births dropped from 45.6 to 15.3, a decline of 66.4 per cent in the period. Among the contributing factors are research and innovations in medicine, improved hospital facilities, availability of medical assistance and hospital accommodation, and a greater emphasis in education on the importance and necessity of good health.

Because the age structure of the population changes from year to year, crude mortality rates as expressed in terms of the number of deaths per thousand population tend to give a distorted picture if they are used to make comparisons within specified time intervals. To overcome this deficiency, standardized or age-adjusted death rates are calculated using an arbitrary standard population, usually the actual population of one year as the denominator in the calculation of the death rates. Standardized rates express the death rates of the various years on a constant population and show the changes in death rates for different years on the basis of unchanged age and sex composition of the population. The crude death rates and the standardized death rates for Ontario for the five-year intervals from 1941 to 1971 are shown in Table 22. The crude death rate declined from 10.4 in 1941 to 7.4 in 1971, or 28.8 per cent, while the standardized death rate declined from 10.4 in 1941

GRAPH 7

MORTALITY RATES, ONTARIO

1941 to 1971



Source: Based on Table 22.

to 6.6 in 1971, or 36.5 per cent during the same years. The difference is due largely to changes in the age and sex composition of the population. The changes in the standardized rates indicate that the reduction in mortality in Ontario has been more significant than the crude rates indicate.

TABLE 22

MORTALITY RATES BY SEX, ONTARIO[1]

CENSUS YEARS 1941 to 1971

Year	Crude Rate			Standardized Rate[a]		
	Male	Female	Total	Male	Female	Total
1941	11.2	9.5	10.4	11.4	9.3	10.4
1946	10.6	8.8	9.7	10.3	8.3	9.3
1951	10.6	8.5	9.6	9.9	7.6	8.7
1956	9.9	7.6	8.7	9.6	6.8	8.1
1961	9.3	7.0	8.2	9.2	6.2	7.6
1966[2]	9.0	6.6	7.8	9.0	5.6	7.2
1971[2]	8.4	6.3	7.4	8.4	5.0	6.6

Note: [a]Standardized to Canada 1956 Census Population.

Sources: [1]Vital Statistics, 1970, Statistics Canada.
[2]Unpublished data from Statistics Canada.

The average age and median age of persons at death are also significant as indicators of the number of years of life that individuals will have available for productive use in the community. The average age and the median age at death for the years 1941 to 1971 are shown in Table 23. Because of the influence a particular age group can have on the calculation of averages, the median age, which takes into account the actual number of deaths rather than the years lived, is a more meaningful measure in the determination of changes in mortality rates.

TABLE 23

AGE OF DECEDENTS BY SEX, ONTARIO[1]

CENSUS YEARS 1941 to 1971

Year	Average Age		Median Age	
	Male	Female	Male	Female
1941	57.4	60.7	65.0	68.9
1946	57.9	61.2	65.7	69.7
1951	59.7	63.7	66.8	71.5
1956	60.7	64.7	67.8	72.6
1961	61.3	66.0	68.1	73.6
1966[2]	63.1	67.7	68.6	74.5
1971[2]	63.9	69.3	68.6	75.2

Sources: [1]Vital Statistics, 1970, Statistics Canada.

[2]Unpublished data from Statistics Canada.

Age Specific Death Rates

The mortality rates by specific age groups, when plotted on a graph, form a U-shaped curve. This is caused by the relatively high mortality rates at the infant level, the rapid decline through the first ten years of life, and then the gradual increase throughout life until a sharp rise occurs in the age group 55-59, which accelerates for succeeding age groups (Table 24).

Because of the varying mortality rates by individual years, a change in the proportion of population of an individual year in an age group or in the total population can influence the mortality rates within that group or within the total population. For example, the age group 0-4, accounting for 7.9 per cent of the total population in 1941, made up 11.9 per cent in 1961. Because the infant mortality rate for children between live birth and first birthday is relatively high, an increase in the proportion of the population under one year in the age group 0-4 will tend to increase the mortality rate in this specific age group and in the total population if other influences remain constant. During the period 1941 to 1961, however, there were improvements in

TABLE 24

MORTALITY RATES BY AGE GROUP, ONTARIO[1]

CENSUS YEARS 1941 to 1971

Age Group	1941	1946	1951	1956	1961	1966	1971[2]
Under 1 year[a]	45.6	37.5	30.9	25.2	23.0	20.2	15.3
1-4	2.7	2.3	1.5	1.3	1.0	0.8	0.7
5-9	1.1	1.0	0.7	0.5	0.5	0.5	0.4
10-14	1.0	0.7	0.6	0.4	0.4	0.4	0.4
15-19	1.3	1.0	1.0	0.9	0.8	0.8	0.9
20-24	1.9	1.4	1.2	1.0	1.0	1.0	1.0
25-29	2.0	1.5	1.2	1.1	1.0	0.9	0.9
30-34	2.2	1.8	1.5	1.3	1.1	1.1	1.1
35-39	3.2	2.5	2.1	1.7	1.8	1.6	1.7
40-44	4.3	3.6	3.4	2.7	2.6	2.6	2.7
45-49	6.3	5.8	5.4	4.8	4.8	4.6	4.3
50-54	9.7	8.6	8.2	8.1	7.8	7.5	6.9
55-59	14.5	13.4	13.9	12.7	12.1	11.9	11.1
60-64	22.0	20.1	21.2	19.9	18.9	18.6	17.1
65-69	34.2	32.0	31.1	30.5	29.2	28.0	26.4
70-74	53.1	49.1	47.9	46.6	45.3	42.2	38.9
75-79	88.3	78.9	81.8	76.9	72.5	68.6	60.9
80-84	139.5	124.9	127.2	122.8	115.3	108.8	96.7
85+	240.8	222.0	223.4	211.9	202.3	196.3	175.8
Mortality rate for total population	10.4	9.7	9.6	8.7	8.2	7.8	7.4

Note: [a]The rates for those under one year of age are per thousand live births. All other rates are per thousand population.

Sources: [1]Vital Statistics, 1970, Statistics Canada.

[2]Unpublished data from Statistics Canada.

the control of diseases among infants, other medical advances, and extension of nursing and hospital services that resulted in a considerable decline in the mortality rate for infants, for the age specific group 0-4, and for the total population.

The next two age groups, 5-9 and 10-14, which are considered to be the ages of elementary school attendance, accounted for 16.6 per cent of the total population in 1941 (Table 2). By 1971, the proportion in these age groups had increased to 20.4 per cent. The mortality rates for each of these age groups declined from 1.0 per thousand population in 1941 to 0.4 in 1971. In the 30 year period from 1941 to 1971, therefore, the decline in the mortality rate for children in these age groups was about 60 per cent. Population in the age group 15-19, which is the age group from which most of the secondary school enrolment is drawn, increased by 110.4 per cent during the period 1941 to 1971, and the mortality rates for this group declined by 30.8 per cent during the same period.

The age groups from 20-24 to 60-64 showed an increase of 86.1 per cent in population during the period 1941 to 1971. At the same time, there was a decline in the proportion of the total population in these age groups from 58.7 per cent in 1941 to 53.7 per cent in 1971. In the age groups 65 years of age and over, the proportion of the total population was 8.0 per cent in 1941, 8.7 per cent in 1951, 8.1 per cent in 1961, and 8.4 per cent in 1971. The age-specific death rates for the age groups 1-4 and 65-69 and over are shown in Table 24. These rates reveal the extent of the decline in mortality for the period 1941 to 1971.

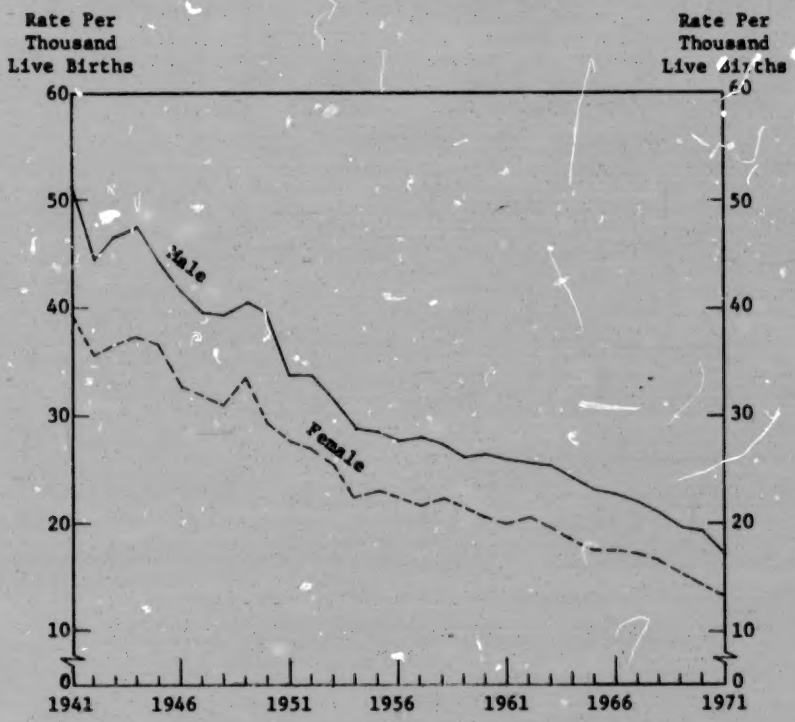
Infant Mortality

Infant mortality refers to the mortality among children between live birth and their first birthday. In 1941, Ontario recorded an infant mortality rate of 45.6 per thousand live births (Table 24). By 1971, the rate had declined to 15.3 per thousand live births, or a decrease of 66.4 per cent (Table 5 and Graph 8). Infant mortality is often considered in two categories, neonatal

GRAPH 8

INFANT MORTALITY RATES BY SEX, ONTARIO

1941 to 1971



Source: Based on Table 5.

mortality and postneonatal mortality (Table 25).

Neonatal Mortality

Neonatal mortality refers to the death of infants less than four weeks old. The mortality rates for this group have declined from 27.2 per thousand live births in 1941 to 10.9 in 1971, a decrease of almost 60.0 per cent. Within the neonatal period, a further analysis deals with the deaths of infants less than one week old. The deaths of infants less than one week old together with foetal deaths of 28 weeks' or more gestation make up perinatal mortality. "The analysis of perinatal deaths is a relatively new statistical concept expressing an increased awareness among physicians that the underlying causes are the same regardless of whether the deaths occur before or after delivery."[1] The perinatal death rate in 1941 was 49.2 per thousand but by 1971 it had declined to 18.8, a decrease of 61.8 per cent.

Postneonatal Mortality

Postneonatal mortality refers to the death of infants at least four weeks old but less than one year of age. The postneonatal death rate, which was 18.4 per thousand live births in 1941, had declined significantly to 4.4 by 1971, a decrease of 76.1 per cent.

Causes of Death

The causes of death among children under one year of age in Ontario in 1971 are set out in the following classification:

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[1] Vital Statistics 1969, Catalogue No. 84-202, 1969, Dominion Bureau of Statistics, Ottawa, February, 1972, p. 8 and p. 27.

TABLE 25

INFANT MORTALITY RATES BY TYPE OF MORTALITY, ONTARIO

CENSUS YEARS 1941 to 1971

Year	Perinatal Mortality[a]		Neonatal Mortality[b]		Post-Neonatal Mortality[c]	
	Deaths	Rate[d]	Deaths	Rate[e]	Deaths	Rate[e]
1941	3,660	49.2	1,968	27.2	1,326	18.4
1946	4,120	41.4	2,574	25.9	1,129	11.6
1951	4,008	34.3	2,429	21.2	1,116	9.7
1956	4,199	28.9	2,509	17.5	1,101	7.7
1961	4,248	26.6	2,627	16.7	999	6.3
1966	3,326	24.9	1,956	14.8	713	5.4
1971[2]	2,476	18.8	1,424	10.9	566	4.4

Notes: [a]Foetal deaths of 28 or more weeks' gestation plus infant deaths under one week of age.

[b]Deaths of infants less than four weeks old.

[c]Deaths of infants between four weeks and one year of age.

[d]Rate per thousand total births.

[e]Rate per thousand live births.

Sources: [1]Vital Statistics, 1941 to 1970, Statistics Canada.

[2]Vital Statistics, Preliminary Annual Report, 1971, Statistics Canada.

Classification of Diseases	Per Cent
Anoxic and hypoxic conditions	23.7
Congenital anomalies	19.9
Immaturity, unqualified	13.9
Accidental and violent deaths	6.7
Influenza, pneumonia, bronchitis, emphysema, and asthma	5.5
Other causes	30.3

For the age group 1-4, the major difference from the above categories is a rise in accidental and violent deaths from 6.7 per cent to 41.8 per cent. The incidence of accidental and violent deaths continues to lead in the number and percentage of deaths for the age groups from 5-14 to 35-44. Cancer emerges as the second major cause of death in the age group 5-14 and remains in that position through the age group 65-74. Diseases of the heart appear as a classification in the age group 20-24 and continue to increase in significance until they replace accidental and violent deaths as the number one cause of deaths in the age group 45-54, remaining in that position for the older age groups.

Life Expectancy

Using mortality rates for the population as a whole and age-specific mortality rates, life expectancy can be calculated and life tables prepared. Life tables show the gain or loss in years of human life based on variations of mortality rates as observed at different years in the past. The relatively high rate of infant mortality gives a lower life expectancy at birth, but after the first year, when the mortality rate declines, the life expectancy increases (Table 26).

Mortality and School Enrolment

Since 1941, the reduction in infant mortality rates means that more children are surviving to enrol in school (Table 24). An article, which reports infant mortality rates by county and district, traces the decline from 1921.[2]

[2] Barratt, T. R., "An Analysis of Mortality Patterns in Ontario", Ontario Economic Review, Vol. 10, No. 4, September/October 1972, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, 1972, pp. 14-15.

TABLE 26

LIFE EXPECTANCY FOR SELECTED AGES, ONTARIO

CENSUS YEARS 1931 to 1961

Male

Year	Years of Age				
	At Birth	1	2	3	4
1931[1]	61.30	65.05	64.60	63.87	63.06
1941[1]	64.55	66.74	66.11	65.18	64.31
1951[2]	66.87	68.34	67.51	66.62	65.71
1961[3]	68.32	69.14	68.24	67.31	66.38

Female

Year	Years of Age				
	At Birth	1	2	3	4
1931[1]	63.92	66.84	66.35	65.57	64.73
1941[1]	68.43	70.07	69.32	68.45	67.57
1951[2]	71.85	72.91	72.06	71.14	70.21
1961[3]	74.40	74.95	74.04	73.10	72.15

Note: The average number of deaths over a three year period including the census year is used in the calculation of life expectancy for the census population. For example, the average number of deaths for the years 1930, 1931, and 1932 by single years of age and sex is used to calculate the life expectancy of the census population of 1931.

Sources:
[1] Life Tables for Canada and Regions, 1941 and 1931, Vital Statistics, Analytical Report No. 4, Dominion Bureau of Statistics.

[2] Provincial and Regional Life Tables, 1950-1952 - 1955-1957, Reference Paper, Dominion Bureau of Statistics.

[3] Provincial and Regional Life Tables, 1960-1962, Reference Paper, Dominion Bureau of Statistics.

In recent years Ontario has had the lowest rate of infant mortality of any province in Canada.[3] While the decline in mortality rates in Canada and Ontario has been significant, it may be that, in the light of experience in some other countries, additional decreases can still be anticipated. For children of school age, five to 15, mortality rates are at their lowest and may well have reached a point where no further significant improvement can be expected, unless it is possible to reduce the number of accidental and violent deaths.[4]

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[3] MacLeod, Betty, Ivison, Carol, and Bidani, Nirmala, Patterns and Trends in Ontario Population, Department of Educational Planning, The Ontario Institute for Studies in Education, Toronto, 1972, p. 130.

[4] Ibid., p. 141.

CHAPTER 7
MIGRATION

A migrant may be defined as a person who leaves his usual place of abode to take up residence elsewhere. This change may involve a move from one country to another, from one province to another within the same country, or from one municipality to another within the same province. Such transitions are usually considered separately and under different names depending on the nature of the transition. The three types of migration considered in this report are international, interprovincial, and intraprovincial.

International Migration

An important factor contributing to Canada's growth in population has been and continues to be the large numbers of immigrants from various countries who have settled in this country over the years. From Confederation in 1867 to the year 1970, the total number of immigrants was 9,844,995.[1] The most significant period, during which the pattern of population growth in Canada was changed decidedly, has been that which began in 1901. The numbers of immigrants to Canada and the numbers and percentages of those who indicated Ontario as their province of destination are shown in Table 27 and Graph 9.

In the years following the Second World War, large numbers of immigrants came to Canada. This was due mainly to the relaxation of admission requirements during this period. "Postwar development in Canada brought about a need to change the existing immigration regulations. They remained restrictive with respect to enemy aliens, but were eased to assist in the humanitarian effort to relocate refugees and displaced persons and to help ease the growing labour shortage during the post war period of economic growth."[2]

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[1] Immigration Statistics, Canada, 1970, Department of Manpower and Immigration, Information Canada, Ottawa, 1971, p. 2.

[2] Kalbach, W. E., The Impact of Immigration on Canada's Population, Dominion Bureau of Statistics, Ottawa, 1970, p. 17.

TABLE 27

IMMIGRANTS TO CANADA AND TO ONTARIO[1,2]

1901 to 1971

Year	Immigrants		Percentage of Immigrants to Ontario
	Canada	Ontario[a]	
1901	49,149	6,208	12.6
1911	311,084	80,035	25.7
1921	91,728	35,538	38.7
1931	27,530	12,316	44.7
1941	9,329	3,365	36.1
1942	7,576	3,315	43.8
1943	8,504	3,852	45.3
1944	12,801	5,361	41.9
1945	22,722	9,342	41.1
1946	71,719	29,604	41.3
1947	64,127	35,543	55.4
1948	125,414	61,621	49.1
1949	95,217	48,607	51.0
1950	73,912	39,041	52.8
1951	194,391	104,842	53.9
1952	164,498	86,059	52.3
1953	168,868	90,120	53.4
1954	154,227	83,029	53.8
1955	109,946	57,563	52.4
1956	164,857	90,662	55.0
1957	282,164	147,097	52.1
1958	124,851	63,853	51.1
1959	106,928	55,976	52.3
1960	104,111	54,491	52.3
1961	71,689	36,518	50.9
1962	74,586	37,210	49.9
1963	93,151	49,216	52.8
1964	112,606	61,468	54.6
1965	146,758	79,702	54.3
1966	194,743	107,621	55.3
1967	222,876	116,850	52.4
1968	183,974	96,155	52.3
1969	161,531	86,588	53.6
1970	147,713	80,732	54.7
1971	121,900	64,357	52.8

Note: [a] Intended province of destination.

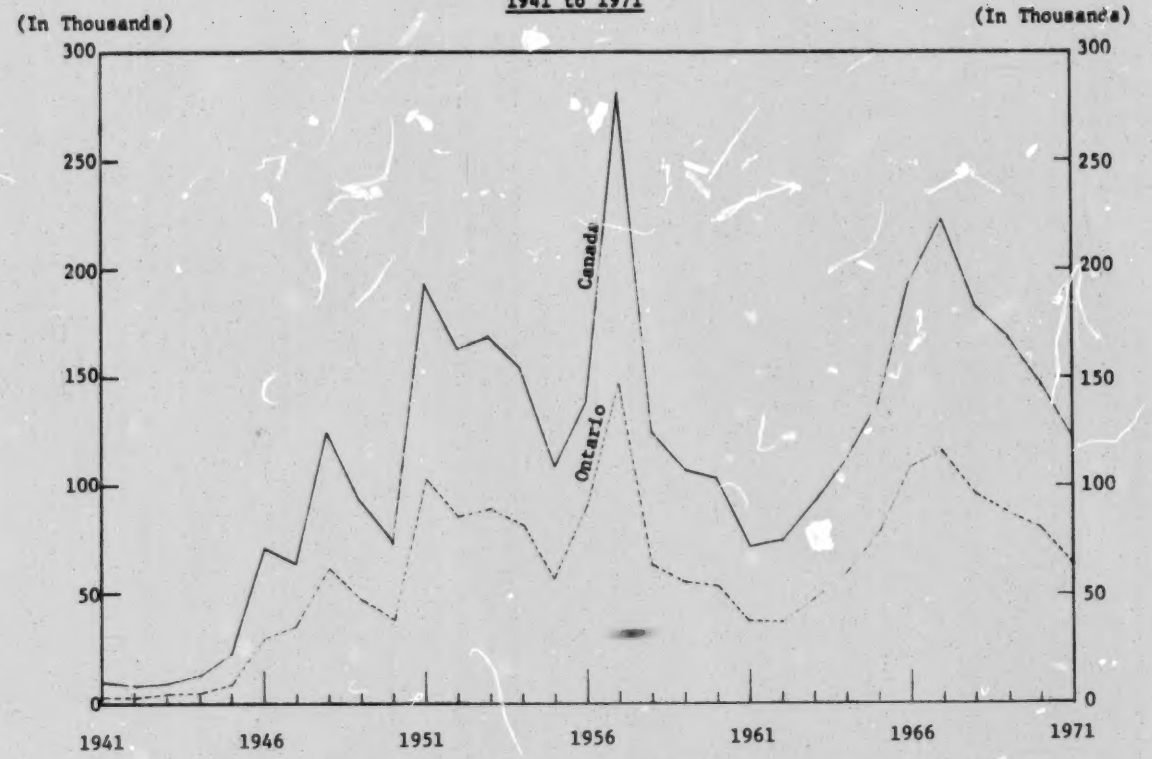
Sources: [1] Immigration Statistics Canada, 1956 to 1971, Department of Manpower and Immigration, Ottawa.

[2] Population Statistics Ontario - 1969, Economic Analysis Branch, Economic and Statistical Services Division, Department of Treasury and Economics, Toronto, 1969.

GRAPH 9

IMMIGRANTS TO CANADA AND TO ONTARIO

1941 to 1971



Source: Table 27.

In 1957, a record number of immigrants was admitted to Canada - 282,164 - a figure not reached since the years immediately preceding World War I. In 1947, the immigrants who came to Ontario numbered 55.4 per cent of the total for Canada. The largest number who ever came to Ontario was 147,097 in 1957, or 52.1 per cent of the total. The decade from 1950 to 1959 inclusive saw the largest number of immigrants ever to arrive in Ontario.

The numbers of immigrants to Ontario, classified by ethnic origin for the period 1946 to 1961 and by country of last permanent residence for the period 1962 to 1971, are shown in Table 28. From 1946 to 1961, 33.9 per cent of all immigrants to Ontario were from Great Britain, with the second largest group from Italy, and the third largest from Germany. Immigrants from other European countries, principally the Netherlands, Scandinavia, Austria, Hungary, Yugoslavia, Poland, and Russia, accounted for 29.0 per cent of all immigrants during this period.

The ten years from 1962 to 1971 inclusive showed a different pattern in the flow of immigrants to Ontario. Of all those who came to Canada after 1946, nearly 41.8 per cent arrived during the decade referred to. Those who showed Great Britain as their country of last permanent residence accounted for 27.4 per cent of the total during the period 1962 to 1971. Immigrants from France showed a small increase in the number and percentage in the same period. The most dramatic increase occurred in the flow of immigrants from the United States: nearly 51.6 per cent of all immigrants from that country during the last twenty-six years have arrived since 1962. The political and social problems in the United States may well have contributed to this unprecedented flow of United States citizens to Ontario and to the other provinces. In Ontario during the past twenty-six years, 31.2 per cent of the immigrants have been from Great Britain; 15.9 per cent, from Italy; and 8.4 per cent, from Germany. Other European countries accounted for 26.2 per cent; the United States, 7.5 per cent; and all other parts of the world, 10.0 per cent.

TABLE 28

IMMIGRANTS TO ONTARIO BY ETHNIC ORIGIN, 1946 to 1961,[1] AND BY COUNTRY OF LAST PERMANENT RESIDENCE, 1962 to 1971[2]

Country	1946 to 1961 By Ethnic Origin	Per Cent	1962 to 1971 By Country of Last Permanent Residence	Per Cent	1946 to 1971 Total Number of Immigrants	Per Cent
Britain	367,492	33.9	213,541	27.4	581,033	31.2
France	5,025	.5	9,638	1.2	14,663	.8
U.S.A.	68,045	6.3	72,677	9.3	140,722	7.5
Italy	177,441	16.3	119,032	15.3	296,473	15.9
Germany	118,763	10.9	38,358	4.9	157,121	8.4
Other European Countries	314,360	29.0	173,907	22.3	488,267	26.2
Others	33,504	3.1	152,746	19.6	186,250	10.0
Total	1,084,630	100.0	779,899	100.0	1,864,529	100.0

Sources: [1] Population Statistics Ontario - 1969, Economic Analysis Branch, Economic and Statistical Services Division, Department of Treasury and Economics, Toronto, 1969.

[2] Immigration Statistics Canada, 1956 to 1971, Department of Manpower and Immigration, Ottawa.

Ages of Immigrants

From 1961 to 1971, the age group 20-24 consistently accounted for the largest number of immigrants to Ontario each year (Table 29). The total for the period was 164,900, or 20.2 per cent. The second largest age group, 25-29, accounted for 142,991, or 17.5 per cent. The combination of the age groups 20-24, 25-29, and 30-34, accounted for 393,742, or 48.2 per cent of all immigrants to Ontario. These figures reflect Canada's policy, which encourages the immigration of adults under 35 years of age. This preference is based on the desire to have an immigrant population young enough to enter the labour market promptly and thus contribute to the economy of the nation. For this reason, applicants for admission to Canada who are under 35 years of age receive a favourable weighting under the eligibility criteria designed for the selection of prospective immigrants.

The age groups 0-4, 5-9, 10-14, and 15-19, are of the most immediate importance in any consideration of school enrolments. The age group 0-4 registered an increase in the number of admissions to Ontario from 3,034 in 1961 to a high of 11,852 in 1966. Thereafter, a decline began and resulted in only 5,322 admissions in 1971. The total for the period 1961 to 1971 inclusive, however, was 76,859, the great majority of whom were of school age in the years 1965 to 1969.

Since trends for the age group 0-4 were also applicable to the age groups 5-9, 10-14, and 15-19, these groups also had a substantial impact on the school population. By 1971, the reduction in the total number of immigrants since 1968 had brought the numbers in these three age groups to levels slightly in excess of those existing in 1960.

The reduction in the number of immigrants to Canada results from the

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[3] The Canada Gazette, Part II, Vol. 101, No. 17, SOR/67-434, September 13, 1967, Schedule A, Section 1(e), Queen's Printer, Ottawa, 1967, p. 59.

TABLE 29

ANNUAL PERCENTAGE INCREASE IN THE NUMBER OF IMMIGRANTS TO ONTARIO BY AGE GROUP 1961 to 1971

Year	Age Group 0-4	Percentage Increase	5-9	Percentage Increase	10-14	Percentage Increase	15-19	Percentage Increase	20-24	Percentage Increase
1960	4,655	-	4,113	-	3,256	-	4,777	-	11,325	-
1961	3,034	-34.8	2,661	-35.3	2,277	-30.1	3,342	-30.0	7,479	-34.0
1962	3,326	9.6	2,872	7.9	2,174	-4.5	3,334	-0.2	7,217	-3.5
1963	4,718	41.9	3,832	33.4	2,838	30.5	4,217	26.5	9,270	28.4
1964	6,164	30.6	5,072	32.4	3,845	35.5	5,466	29.6	10,728	15.7
1965	8,466	37.3	6,988	37.8	4,941	28.5	6,995	28.0	13,832	28.9
1966	11,852	40.0	9,969	42.7	6,587	33.3	8,613	23.1	19,477	40.8
1967	11,228	-5.3	9,759	-2.1	6,318	-4.1	8,660	0.5	23,673	21.5
1968	8,517	-24.1	7,557	-22.6	5,036	-20.3	7,790	-10.0	20,889	-11.8
1969	7,435	-12.7	6,744	-10.8	4,304	-14.5	6,634	-14.8	19,487	-6.7
1970	6,797	-8.6	6,155	-8.7	4,081	-5.2	6,196	-6.6	18,848	-3.3
1971	5,322	-21.7	4,999	-18.8	3,555	-12.9	5,149	-16.9	14,000	-25.7

	25-29	Percentage Increase	30-34	Percentage Increase	35-39	Percentage Increase	40-44	Percentage Increase	45-49	Percentage Increase
1960	8,950	-	5,626	-	3,717	-	1,904	-	1,742	-
1961	5,669	-34.0	3,460	-38.5	2,438	-34.4	1,400	-26.5	1,091	-37.4
1962	6,013	6.1	3,800	9.8	2,544	4.3	1,436	2.6	996	-8.7
1963	8,257	37.3	5,316	39.9	3,502	37.7	2,062	43.6	1,053	5.7
1964	9,982	20.9	6,463	21.6	4,228	20.7	2,773	34.5	1,469	39.5
1965	12,981	30.0	8,300	28.4	5,562	31.6	3,397	22.5	1,937	31.9
1966	17,677	36.2	11,229	35.3	7,602	36.7	4,853	42.9	2,710	39.9
1967	21,404	21.1	12,825	14.2	7,690	1.2	4,711	-2.9	2,928	8.0
1968	17,194	-19.7	9,846	-23.2	5,970	-22.4	3,577	-24.1	2,221	-24.1
1969	16,534	-3.8	9,382	-4.7	5,175	-13.3	2,791	-22.0	1,876	-15.5
1970	15,130	-8.5	8,713	-7.1	4,678	-9.6	2,709	-2.9	1,713	-8.7
1971	12,150	-19.7	6,517	-25.2	3,855	-17.6	2,176	-19.7	1,375	-19.7

TABLE 29 (CONTINUED)

ANNUAL PERCENTAGE INCREASE IN THE NUMBER OF IMMIGRANTS TO ONTARIO BY AGE GROUP

1961 to 1971

Year	Age Group 50-54	Percentage Increase	55-59	Percentage Increase	60-64	Percentage Increase	65-69	Percentage Increase	70+	Percentage Increase
1960	1,496	-	1,117	-	898	-	637	-	638	-
1961	1,017	-32.0	815	-27.0	692	-22.9	583	-8.5	560	-12.2
1962	883	-13.2	734	-9.9	728	5.2	561	-3.8	592	5.7
1963	1,026	16.2	955	30.1	782	7.4	688	22.6	700	18.2
1964	1,400	36.5	1,286	34.7	993	27.0	803	16.7	796	13.7
1965	1,710	22.1	1,497	16.4	1,218	22.7	975	21.4	903	13.4
1966	2,128	24.4	1,709	14.2	1,235	1.4	1,012	3.8	968	7.2
1967	2,018	-5.2	1,911	11.8	1,501	21.5	1,134	12.1	1,090	12.6
1968	1,588	-21.3	1,668	-12.7	1,757	17.1	1,279	12.8	1,266	16.1
1969	1,254	-21.0	1,481	-11.2	1,468	-16.4	1,013	-21.0	1,010	-20.2
1970	1,188	-5.3	1,269	-14.3	1,273	-13.3	963	-4.9	1,019	.9
1971	1,068	-10.1	1,098	-13.5	1,197	-6.0	932	-3.2	964	-5.4

Source: Immigration Statistics Canada, 1960 to 1971, Department of Manpower and Immigration, Ottawa.

slower pace in the high level of economic activity and the resulting increase in unemployment that Canada has experienced in recent years. Since applications of prospective immigrants are considered on the basis of criteria that give considerable weight to the availability of jobs for the skills possessed by each applicant, it seems unlikely that the numbers of immigrants in 1970 and 1971 will be exceeded in the immediate future. The liberalized immigration policy in effect in the middle 1960's has been the subject of considerable criticism in recent years because of the shortage of jobs. Unless the unemployment problem can be reduced considerably, it may even be that tighter restrictions will be applied, resulting in even lower numbers of immigrant arrivals to Ontario. Because of fluctuations in the demands for the skills of immigrants created by economic conditions, which are sometimes subject to change on short notice, it is important that those persons who have the responsibility for educational planning be knowledgeable about developments in these areas and take into account the impact of increasing or decreasing immigration among the age groups of school age.

Emigration of residents of Canada and Ontario to other parts of the world has received little attention, and statistics on this aspect of migration are sadly lacking. For the most part, reliance has to be placed on data collected by other countries about the number of aliens admitted by them to obtain information about the number of Canadians who take up residence elsewhere. The majority of people who leave Canada are assumed to go to the United States or to the United Kingdom. During the period 1946 to 1966, a total of 870,109 Canadians are reported to have emigrated to those two countries, with the former accounting for 81 per cent and the latter for 19 per cent.[4] Another estimate of emigration of Canadian-born to the United States indicates an average of 19,000 emigrants per year during

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[4] Population Statistics Ontario - 1969, Economic Analysis Branch, Economic and Statistical Services Division, Department of Treasury and Economics, Toronto, October, 1969, p. 30.

the years 1955 to 1960.[5] Traditionally, the "pull" factor of economic opportunities has attracted many emigrants from Canada to the United States.[6]

Interprovincial Migration

Migration between provinces includes those who come from another province to live in a province (in-migrants) and those who leave it to live in another province (out-migrants). The interaction of these two types of transfer results in a net gain or a net loss for a particular province. Migration causes a redistribution of population within a province, between provinces, and within a nation. Stone has emphasized that "Migration is an important symptom of economic and social conditions. It is connected with the changes in economic structure which tend to be concentrated at particular points in the spatial distribution of economic activity.

.....

"In effecting the redistribution of population, migration influences the demographic and socio-economic composition of population in particular regions and thus influences their growth potential and the extent to which they experience certain social and economic problems."[7] Redistribution of population also results in the reallocation of skilled labour.

The mobility of Canadians from one province to another is one aspect of migration that until recently has not been studied in any great detail. Two impor-

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[5] Samuel, T. J., The Migration of Canadian-born Between Canada and the United States, 1955 to 1968, Research Branch, Program Development Service, Department of Manpower and Immigration, Queen's Printer, Ottawa, 1969, p. 5.

[6] Officer, L. H., and Smith, L. B. (Editors), Canadian Economic Problems and Policies, McGraw-Hill Company of Canada Limited, Toronto, 1970, p. 151.

[7] Stone, L. O., Migration in Canada: Regional Aspects, Dominion Bureau of Statistics, Ottawa, 1969, p. 3.

tant volumes,[8,9] based on the census in 1961, deal with past trends in migration within Canada. These studies provide a "gain or loss" analysis of population through migration for each of the provinces and they show that Ontario has consistently had a net gain from interprovincial migration.[10]

Intraprovincial Migration

Migration within a province, such as movement from rural to urban areas or urban to rural, or other combinations, is designated as intraprovincial migration. Very little research has been done on migration within Ontario. A major limitation among a multiplicity of problems associated with migration analysis is the lack of adequate data at the county and district levels. Information on the numbers of people moving into a community during a specific period of time is practically non-existent. An attempt to meet the difficulty is called the "vital statistics method". This procedure involves an indirect calculation using the process of elimination whereby the natural increase during an intercensal period is subtracted from the total increase for that period. The result is the net number of migrants. Although this method yields the net results, it does not reveal the volume or the extent of the two variables, the number of those who arrive (in-migrants) and the number of those who leave (out-migrants) from which the net is derived.

Recent analysis of data pertaining to migration within Ontario between 1951 and 1966, indicates that the migration patterns were largely determined by the decision of new immigrants to settle in this province and that immigrants represented between 50 and 100 per cent of net in-migration to those counties

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[8] Ibid.

[9] George, M. V., Internal Migration in Canada: Demographic Analyses, Census Division, Dominion Bureau of Statistics, Ottawa, 1970.

[10] Migration in Canada: Regional Aspects, p. 10.

which have shown a gain in population through migration.[11]

Another source of information and analysis of past trends in net migration during the period 1941 to 1966 is provided by the Ontario Department of Treasury and Economics.[12]

Migration and Enrolment in Schools

Net migration is an important factor in the determination of school enrolment. All three types of migration - international, interprovincial, and intraprovincial - contribute to an increase or decrease in population. School enrolments are similarly affected, depending on the age levels of the population changes. International and interprovincial migration have traditionally had the greatest effect on enrolment patterns in Ontario. Although intraprovincial migration plays a significant role in altering the enrolment pattern in specific school jurisdictions, its effect from year to year is less dramatic than the increase in school population as a result of the influx of children from other provinces within Canada or from abroad.

International Migration of School Age Children

Table 30, Graph 10 and Graph 11 show the number of immigrants by age groups who were 19 years of age and under for the years 1961 to 1971 inclusive. For each of these years, immigrants of school age and potential school age accounted for more than one-quarter of the total number of immigrants to the province. In each of the years 1965 and 1966, they accounted for a high of 34.4 per cent of the total. The largest number was in 1966 when 37,210 were admitted. Beginning in 1967, the total number in the age groups 19 and under showed a decline, which has continued in

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[11] MacLeod, Betty, Avison, Carol, and Bidani, Nirmala, Patterns and Trends in Ontario Population, Department of Educational Planning, The Ontario Institute for Studies in Education, Toronto, 1972, p. 204.

[12] Population Statistics Ontario - 1969, pp. 28-42.

TABLE 30

IMMIGRANTS TO ONTARIO 19 YEARS OF AGE AND UNDER

1961 to 1971

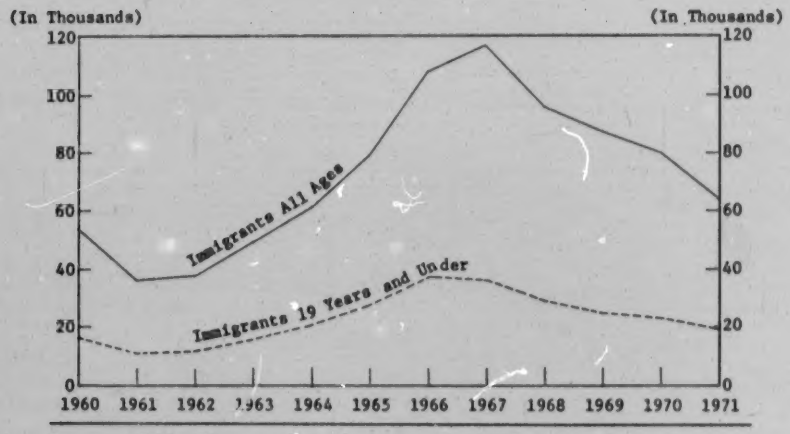
Year	Age Group 0-4	Per Cent	5-9	Per Cent	10-14	Per Cent	5-14	Per Cent	15-19	Per Cent	Total	Per Cent	Immigrants All Ages	Per Cent 0-19
1961	3,034	26.8	2,661	23.5	2,277	20.1	4,938	43.6	3,342	29.6	11,314	100.0	36,518	31.0
1962	3,326	28.4	2,872	24.5	2,174	18.6	5,046	43.1	3,334	28.5	11,706	100.0	37,210	31.5
1963	4,718	30.2	3,832	24.6	2,838	18.2	6,670	42.8	4,217	27.0	15,605	100.0	49,216	31.7
1964	6,164	30.0	5,072	24.7	3,845	18.7	8,917	43.4	5,466	26.6	20,547	100.0	61,468	33.4
1965	8,466	30.9	6,988	25.5	4,941	18.0	11,929	43.5	6,995	25.6	27,390	100.0	79,702	34.4
1966	11,852	32.0	9,969	26.9	6,587	17.8	16,556	44.7	8,613	23.3	37,021	100.0	107,621	34.4
1967	11,228	31.2	9,759	27.1	6,318	17.6	16,077	44.7	8,660	24.1	35,965	100.0	116,850	30.8
1968	8,517	29.5	7,557	26.1	5,036	17.4	12,593	43.5	7,790	27.0	28,900	100.0	96,155	30.1
1969	7,435	29.6	6,744	26.9	4,304	17.1	11,048	44.0	6,634	26.4	25,117	100.0	86,588	29.0
1970	6,797	29.3	6,155	26.5	4,081	17.6	10,236	44.1	6,196	26.6	23,229	100.0	80,732	28.8
1971	5,322	28.0	4,999	26.3	3,555	18.7	8,554	45.0	5,149	27.0	19,025	100.0	64,357	29.6

Source: Immigration Statistics Canada, 1960 to 1971, Department of Manpower and Immigration, Ottawa.

GRAPH 10

IMMIGRANTS TO ONTARIO 19 YEARS OF AGE AND UNDER AND OF ALL AGES

1960 to 1971

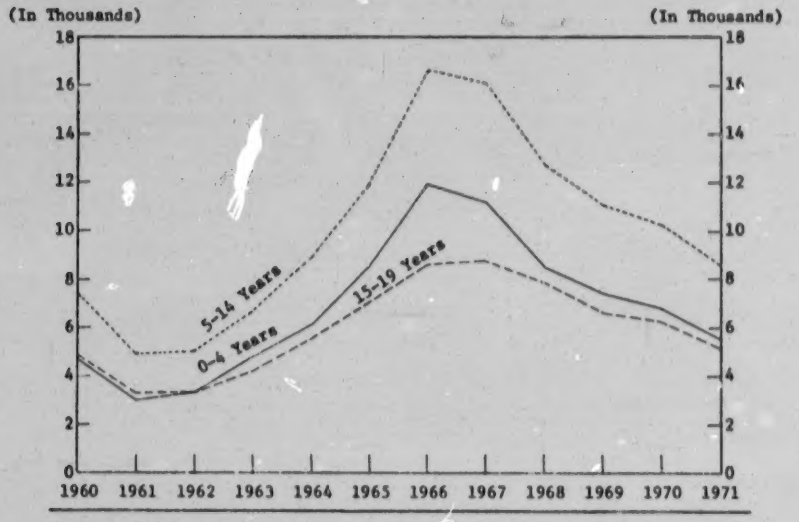


Source: Table 30.

GRAPH 11

IMMIGRANTS TO ONTARIO 19 YEARS OF AGE AND UNDER BY AGE GROUP

1960 to 1971



Source: Table 30.

each subsequent year. This reflected the decline in the total number of immigrants of all ages that began in 1968 and that has continued to 1971.

In 1971, among the four age groups of immigrants 19 years of age and under, the age group 0-4 made up almost 30 per cent of the total and was the largest single category. Those who were 5-14 years of age, which is roughly the elementary school period, constituted 45 per cent of all those under 19 years of age. Since a breakdown of the number of immigrants by single years of age is not available, it is difficult to estimate the number of 14-year-olds who may be beyond the elementary school level. But the figure of 45 per cent for the proportion of those of elementary school age seems reasonable. The proportion in the age group 15-19 is slightly in excess of one-quarter of those 19 years of age and under and is the group from which most of the secondary school students are drawn. It is more difficult to determine the number who actually enrol because of the end of compulsory attendance at age 16.

Interprovincial Migration of School Age Children

Accurate statistics of annual interprovincial migration of school age children are not available. Statistics Canada[13] provides estimates of the net number of children transferring into or out of each province based on reports of the Family Allowance Division, Department of National Health and Welfare (Table 31). These estimates show a net gain of migrants to Ontario with the exception of the years 1960-61 and 1961-62 (Table 32). The year 1965-66 and the years 1969-70 and 1970-71 show unusually large net gains for Ontario.

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[13] Interprovincial Movement of Children in Canada, Catalogue 81-216 - Annual - Education Division, Statistics Canada, Ottawa, 1971.

TABLE 31

MIGRATION AND ENROLMENT FROM OUTSIDE ONTARIO

1961-62 to 1971-72

Year	Immigrants[1] 19 Years and Under From Other Countries[a]	Estimate[2] of Migrants 18 Years and Under From Other Provinces[b]	Total	Enrolment[c] From Outside Ontario[3]					Migrants less Enrolment
				Public	Roman Catholic Separate	Total Elementary	Secondary	Total Elementary and Secondary	
1961-62	11,314	27,872	39,186	13,194	4,471	17,665	2,652	20,317	18,869
1962-63	11,706	30,398	42,104	13,550	4,746	18,296	2,903	21,199	20,905
1963-64	15,605	33,249	48,854	16,439	5,524	21,963	3,516	25,479	23,375
1964-65	20,547	36,546	57,093	18,077	6,314	24,391	3,751	28,242	28,951
1965-66	27,390	41,208	68,598	20,662	7,874	28,536	4,313	32,849	35,749
1966-67	37,021	41,014	78,035	23,961	7,925	31,886	4,843	36,729	41,306
1967-68	35,965	36,192	72,157	24,449	8,020	32,469	4,099	36,568	35,589
1968-69	28,900	34,116	63,016	21,834	6,393	28,227	5,250	33,477	29,539
1969-70	25,117	45,375	70,492	22,402	6,203	28,605	5,967	34,572	35,920
1970-71	23,229	42,148	65,377	21,440	5,586	27,026	6,005	33,031	32,346
1971-72	19,025	35,094	54,119	19,843	5,347	25,190	6,228	31,418	22,701

Notes: [a] Statistics are for the year from January to December.

[b] Based on statistics for the year from July to June.

[c] Enrolment as of September of each year.

Sources: [1] Immigration Statistics Canada, 1961 to 1971, Department of Manpwer and Immigration, Ottawa.

[2] Interprovincial Movement of Children in Canada, 1961 to 1971, Statistics Canada.

[3] Reports of the Minister of Education, 1961 to 1971.

TABLE 32

NET INTERPROVINCIAL MIGRATION[a] OF CHILDREN[b]

1947-48 to 1970-71

Year	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and North West Territories
1947-48	-	- 87	-2,571	- 136	- 662	+ 3,570	-3,448	-6,817	- 729	+11,118	-
1948-49	-	-219	-1,679	- 596	- 244	+ 4,1[illegible]	-1,332	-5,343	+1,341	+ 4,809	-
1949-50	- 508	- 21	- 807	-1,189	- 145	+ 2,378	- 610	-3,570	+2,647	+ 1,201	-
1950-51	- 743	-[illegible]	-1,569	-2,703	- 626	+ 7,970	-1,327	-3,2[illegible]	+1,272	+ 1,162	-
1951-52	- 490	-[illegible]0	-1,38[illegible]	-1,730	- 389	+ 5,863	-1,658	-3,949	+ 101	+ 3,744	-
1952-53	- 9	-343	-1,[illegible]53	-1,139	- 1,803	+ 2,884	-1,481	-2,010	+1,888	+ 3,236	-
1953-54	- 99	-430	-1,607	-1,431	- 1,224	+ 5,154	-1,205	- 108	+ 897	+ 2,39[illegible]	-
1954-55	+ 54	-495	- 769	- 676	- 705	+ 1,414	- 771	-3,142	- 370	+ 3,471	-
1955-56	- 99	-371	-1,860	-1,091	- 1,836	+ 5,334	-2,370	-5,345	-1,119	+ 6,801	-
1956-57	- 385	-489	-3,001	- 860	- 1,959	+ 5,331	-3,627	-6,266	-1,270	+ 9,082	-
1957-58	- 548	- 14	-2,172	- 18	- 184	+ 1,986	-1,589	-2,239	+ 349	+ 2,921	-
19[illegible]-59	- 374	+ 84	-1,058	+ 771	- 1,057	+ 1,359	- 376	-1,419	+2,065	- 606	- 53
[illegible]59-60	- 415	+ 70	-1,526	- 472	- 550	+ 2,457	- 627	-3,378	+2,344	+ 1,539	+ 60
1960-61	- 77	+ 99	- 925	+ 429	+ 1,757	- 1,103	- 253	-2,441	+1,736	+ 314	+141
1961-62	- 18	+418	-1,230	- 893	+ 2,885	- 893	- 563	-3,490	+2,032	+ 1,293	+ 49
1962-63	- 256	-232	+ 217	-1,426	+ 242	+ 593	+ 744	-3,870	+ 815	+ 3,719	-226
1963-64	- 965	-229	-2,273	-1,655	- 208	+ 4,445	-1,541	-1,685	-1,707	+ 6,151	-484
1964-65	-1,346	-521	-3,307	-1,128	- 589	+ 6,241	-2,889	-1,913	-2,576	+ 8,419	-909
1965-66	-2,465	-517	-3,030	-2,760	- 3,412	+11,004	-4,746	-3,232	-4,386	+14,012	-468
1966-67	-2,052	-387	-2,616	-2,497	- 3,898	+ 8,526	-4,360	-3,763	- 507	+12,148	-594
1967-68	-1,435	-163	-1,185	- 925	- 5,391	+ 5,035	-2,696	-2,753	+1,516	+ 8,177	-180
1968-69	- 949	-351	- 764	-1,791	- 5,290	+ 5,805	-2,409	-4,983	+1,860	+ 8,852	+ 20
1969-70	-3,445	-667	-1,783	-2,950	-10,322	+18,335	-3,505	-9,334	+1,932	+11,614	+145
1970-71	-1,795	- 43	-1,571	- 433	-10,500	+15,323	-2,423	-7,884	+1,201	+ 7,511	+614

Notes: [a]Estimates based on reports of the number of families transferring into and out of each province.

[b]Children are those 18 years of age and under.

Source: Interprovincial Movement of Children in Canada, 1961 to 1971, Statistics Canada.

Impact of International and Interprovincial Migration on School Enrolment

Published statistics[14] show that during the period from 1961-62 to 1971-72, the total number of students admitted from outside the province to the elementary and secondary schools of Ontario ranged from a low of 20,317 in 1961-62 to a high of 36,729 in 1966-67 (Table 31 and Graph 12). The grand totals of enrolment from outside Ontario are derived from the number of immigrants 19 years of age and under from other countries and the estimated number of arrivals from other provinces whose age limits, 18 and under, were within those that determine eligibility for Family Allowance benefits.

The proportion of the enrolment from outside Ontario attributable to each of international migration and interprovincial migration is difficult to determine since there are many unknowns about the details of these transitions. In spite of these limitations, some calculations can be made about the number of admissions to school from the number of new arrivals to Ontario.

(a) Elementary

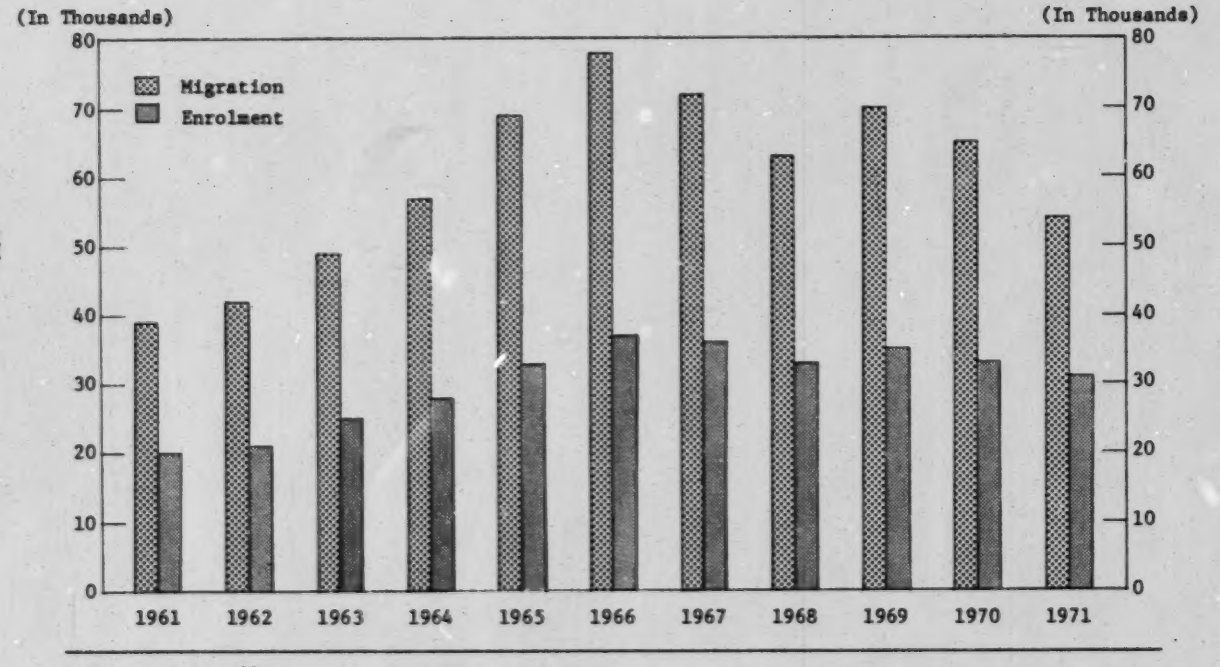
In 1961-62, the total of the admissions to elementary schools from outside the province was 17,665. If it is assumed that all international migrants in the age groups 5-14 are of elementary school age, then 4,938 were included in the 17,665. The remainder of 12,729 students admitted must, therefore, have come from other provinces within Canada. Statistics Canada estimates that in 1961-62, the total of all migrant arrivals to Ontario aged 18 and under from other provinces was 27,872. Consequently, the difference between 27,872 and 12,727, or 15,145, is the estimated number of interprovincial

[14] Reports of the Minister of Education, 1961 to 1971.

GRAPH 12

MIGRATION AND ENROLMENT FROM OUTSIDE ONTARIO

1961 to 1971



Source: Table 31.

migrants in the age group 0-4 and the age group 15-18 who were not of elementary school age. The same procedure can be used to arrive at comparable figures for the years since 1961-62.

(b) Secondary

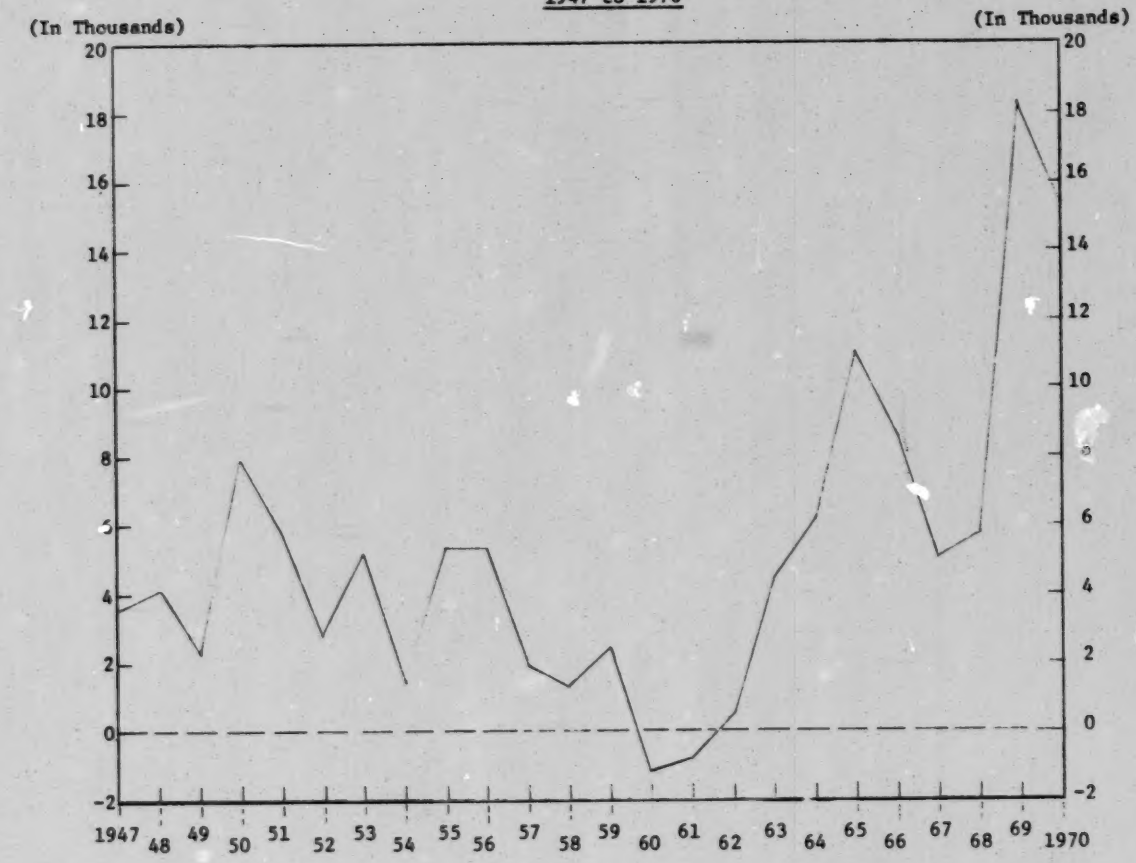
Again, using the data for 1961-62, the admissions to the secondary schools from outside Ontario numbered 2,652. If it is assumed that they all came from the age group 15-19 of the international migrants and the age group 15-18 of the interprovincial migrants, the figures are 3,342 and 15,145, minus the numbers in the age group 0-4. Since the numbers in each of the specific age groups 0-4 and 15-18 of the interprovincial migrants are unknown, the best that can be said is that the 2,652 are drawn from the total of 3,342 plus 15,145, or 18,487 minus the number in the age group 0-4 of the interprovincial migrants. This is, of course, an unsatisfactory basis of calculation, but it is the best available because of the deficiencies in the statistical data.

In any case, while the data showing new enrolments of those arriving in the province as a result of international and interprovincial migration and while the enrolment in a particular school may show an increase as a result of this migration, the really significant figure, in so far as the province as a whole is concerned, is the net migration. Again, because of deficiencies in the data and information, it is not known what the annual net increase is to Ontario as a result of international migration. Data are provided to show the net migration for interprovincial movement (Table 32 and Graph 13). For 1969-70 and 1970-71, these figures were substantial at 18,335 and 15,323 respectively, the highest levels attained in twenty-five years.

If the data for 1970 and 1970-71 are used to illustrate the origin

GRAPH 13

NET INTERPROVINCIAL MIGRATION OF CHILDREN, ONTARIO
1947 to 1970



Source: Table 32.

of those who enrolled from outside Ontario, the difficulties due to lack of adequate data can be illustrated. In 1970, there were 10,236 immigrants in the 5-14 age groups. Consequently, it can be assumed that all of these enrolled in elementary schools. In addition, 6,196 immigrants were in the 15-19 age group, but it cannot be assumed that all of them enrolled in school. However, if all of them had enrolled, the total from immigration in both elementary and secondary schools would have been 16,432. The best that can be said about these figures is that between 10,236+ and 16,432 enrolled in school. There are, of course, no figures on the numbers who left Ontario to go to other countries; so it is impossible to arrive at an accurate net enrolment figure for international movement.

The data for interprovincial transfer is even more inadequate. While the estimate based on Family Allowance data shows that in 1970-71 there were 42,148 transfers to Ontario from other provinces, this figure is for all those 18 years of age and under. This includes the age group 0-4, not yet of school age, and those beyond compulsory school age of 16 who may have decided to quit school. Both these factors would tend to reduce the number enrolled. On the other hand, a small number beyond 18 years of age may have enrolled in the senior grades of the secondary school. As an outside figure, however, the total of 16,432 plus 42,148 would give a total of 58,580. The fact that 33,031 actually enrolled leaves a difference of 25,549. The latter figure may account for immigrants in the age group 16-19 who did not enrol in school, those in the age group 0-4 of the interprovincial migrants, and those 16-18 who decided not to continue school after transfer to Ontario. But the degree to which dependence must be placed on conjecture about school enrolment within these age groups indicates the inadequacy of the data. When, to these difficulties, is added the lack of knowledge of the net enrolment as a result of transfers to other countries and provinces, the problem of planning for the education of new

arrivals is compounded. The limitations of statistics presently being collected and published and the lack of research pertaining to the large numbers of students being absorbed into the schools of Ontario each year are deficiencies that must be overcome.

Statistics provided at the time of immigration identify the intended province of destination of arrivals but do not necessarily indicate the number of new arrivals who ultimately settle in any one province. Consequently, it is not known how many move on from Ontario to another province nor how many change their minds and settle in Ontario.

Intraprovincial Migration of School Age Children

The high mobility of residents of Ontario is illustrated by the number of admissions by transfer of pupils formerly enrolled in other schools within the province (Table 33 and Graph 14). At the elementary level, the admissions by transfer rose from a total of 201,876 in 1957-58 to a high of 328,566 in 1969-70 and have since declined slightly. The figure of 320,488 in 1971-72 was almost 65.0 per cent of all admissions in that year and 22.0 per cent of the total enrolment in the same year. At the secondary level, the number of admissions by transfer rose from 16,300 in 1957-58 to a high of 45,755 in 1971-72. The figure of 45,755 was 21.6 per cent of all admissions in the latter year and 8.0 per cent of the total enrolment in the same year. In 1971-72, the total of all admissions by transfer for both levels was 366,243 out of a total of all admissions of 705,827, or 51.9 per cent. The remaining 48.1 per cent was made up mainly of those who enrolled in school for the first time, of those promoted from elementary to secondary schools, of those who entered the public system from private schools, and of those who were admitted from outside the province.

There are several factors that account for the large numbers of pupils who transfer from one school to another within the province. Among these

TABLE 33

ADMISSIONS BY TRANSFER WITHIN PROVINCE TO ELEMENTARY AND SECONDARY SCHOOLS, ONTARIO

1957-58 to 1971-72

School Year	Public			Roman Catholic Separate			Total Elementary		
	Admissions by Transfer	Total Admissions	Per Cent	Admissions by Transfer	Total Admissions	Per Cent	Admissions by Transfer	Total Admissions	Per Cent
1957-58	157,971	286,781	55.1	43,905	82,507	53.2	201,876	369,288	54.7
1958-59	171,517	297,566	57.6	47,785	87,286	54.7	219,302	384,852	57.0
1959-60	174,585	300,596	58.1	51,724	93,745	55.2	226,309	394,341	57.4
1960-61	168,742	296,636	56.9	53,102	97,599	54.4	221,844	394,235	56.3
1961-62	169,861	297,315	57.1	57,702	102,609	56.2	227,038[a]	399,399[a]	56.8
1962-63	167,549	296,220	56.6	55,555	102,186	54.4	223,104	398,406	56.0
1963-64	181,049	315,552	57.4	59,339	107,753	55.1	240,388	423,305	56.8
1964-65	196,300	333,224	58.9	68,071	123,051	55.3	264,371	456,275	57.9
1965-66	214,795	356,376	60.3	74,462	131,263	56.7	289,257	487,639	59.3
1966-67	236,104	381,463	61.9	74,661	131,584	56.7	310,765	513,047	60.6
1967-68	244,715	393,521	62.2	77,829	134,269	58.0	322,544	527,790	61.1
1968-69	239,846	388,235	61.8	77,531	130,585	59.4	317,377	518,820	61.2
1969-70	247,939	400,642	61.9	80,627	133,969	60.2	328,566	534,611	61.5
1970-71	240,498	377,469	63.7	82,427	132,316	62.3	322,925	509,785	63.3
1971-72	241,118	366,007	65.9	79,370	128,191	61.9	320,488	494,198	64.9

	Secondary			Total Elementary and Secondary		
1957-58	16,300	85,423	19.1	218,176	454,711	48.0
1958-59	17,259	87,753	19.7	236,561	472,605	50.0
1959-60	18,448	91,842	20.1	244,757	486,183	50.3
1960-61	21,946	107,812	20.4	243,790	502,047	48.6
1961-62	27,139	123,670	21.9	254,177	523,069	48.6
1962-63	30,086	131,461	22.9	253,190	529,867	47.8
1963-64	35,307	143,081	24.7	275,695	566,386	48.7
1964-65	33,772	144,217	23.4	298,143	600,492	49.6
1965-66	36,778	154,133	23.9	326,035	641,772	50.8
1966-67	41,753	170,890	24.4	352,518	683,937	51.5
1967-68	38,166	177,337	21.5	360,710	705,127	51.2
1968-69	38,181	189,837	20.1	355,558	708,657	50.2
1969-70	41,233	199,119	20.7	369,799	733,730	50.4
1970-71	42,631	204,869	20.8	365,556	714,654	51.2
1971-72	45,755	211,629	21.6	366,243	705,827	51.9

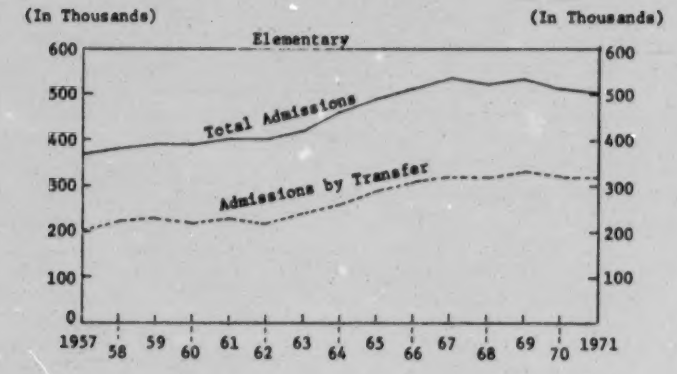
Note: [a]Unexplained differences of 525 students in the total number of admissions by transfer and 517 students in the total number of all admissions are found during the year 1961-62.

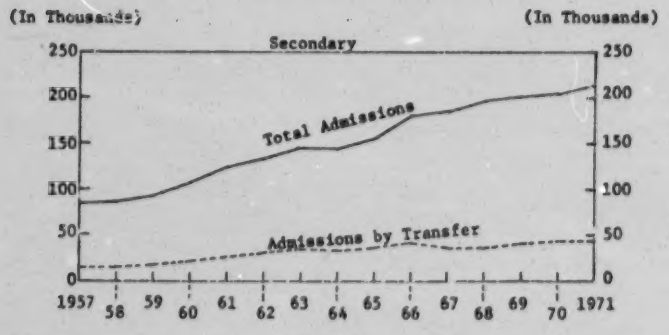
Source: Reports of the Minister of Education, 1957 to 1971.

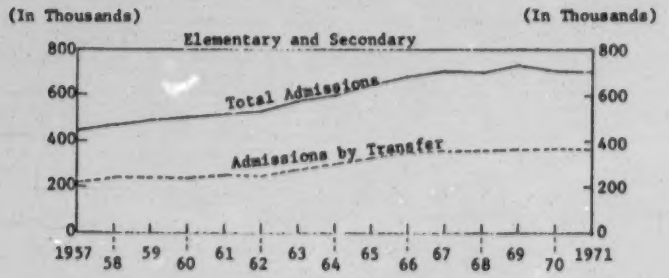
GRAPH 14

ADMISSIONS BY TRANSFER WITHIN PROVINCE TO ELEMENTARY AND SECONDARY SCHOOLS, ONTARIO

1957-58 to 1971-72







Source: Table 33.

is population redistribution because of expanded economic development or economic recession in a particular geographic area. The location of new housing subdivisions attracts families to them and may result in the release of accommodation to be occupied by still other families. The shifting of school attendance boundaries, to alleviate problems of over and under utilization of school accommodation within a specific geographic area, has been an important factor and may become even more significant in the future. The change of taxation support of parents between Roman Catholic Separate Schools accounts for a considerable number of transfers. Regional development plans currently being undertaken in Ontario will tend to increase the number of transfers in the future. We can conclude then that the movement of families will continue to result in a high ratio of transfers among school age children and that the trend for the decade ahead is likely to be towards a still greater proportion who will move from one school to another. The magnitude of this mobility will be an important factor for school boards and their staffs to take into account in the planning they do for the education of their school-age population.

CHAPTER 8

ENROLMENT

In 1946-47, there were 662,858 students attending the elementary and secondary schools in Ontario, or 16.2 per cent of the total population of the province (Table 34, Graph 15, Graph 16, and Graph 17). By 1956-57, the enrolment was 1,097,501, or 20.3 per cent of the population. The increase during the ten year period was 434,643, or 65.6 per cent. By 1966-67, there were 1,800,897 students enrolled or 25.9 per cent of the population, an increase of 64.1 per cent in the period 1956-57 to 1966-67. For the twenty-year period, 1946-47 to 1966-67, the increase in enrolment was 1,138,039, or 171.7 per cent. The magnitude of this increase is brought sharply into focus by a comparison with the increase of 70.1 per cent in the total population during the same twenty-year period: the enrolment in the schools increased by almost two and a half times the increase in the general population.

In the five-year period ending in 1971-72, the enrolment further increased by 230,463 or 12.8 per cent, to 2,031,360 students. The percentage of the population enrolled stood at 26.4 in 1971. The ratio of the school enrolment to provincial population increased over the years because of factors such as the greatly increased number of births, more immigration, extension of kindergarten classes, and the higher retention rates at the secondary school level.

Elementary

In 1946-47, there was a total of 539,012 students enrolled in the Public Schools and the Roman Catholic Separate Schools (Table 34). By 1956-57, the number was 911,896. With some allowance having to be made for the change in accounting methods from net enrolment to total enrolment, the increase was about 65.7 per cent. About 73 per cent of the increase was in the Public Schools and 27 per cent in the Separate Schools. During the next decade, from 1956-57 to 1966-67, the enrolment at the elementary level rose to 1,364,871, or an increase of almost 50 per cent. Of the increase of 452,975, the Public Schools accounted for 60 per cent, a drop of 13 per cent when com-

TABLE 34

ENROLMENT[1] IN ELEMENTARY AND SECONDARY SCHOOLS AS PERCENTAGE OF TOTAL POPULATION, ONTARIO

1946-47 to 1971-72

Year	Population of Ontario[2] (000)	School Year	Elementary						Secondary		Elementary and Secondary	
			Enrolment			Percentage of Population						
			Public[a]	Roman Catholic Separate[a]	Total[b]	Public[a]	Roman Catholic Separate[a]	Total[b]	Total Enrolment	Percentage of Population	Total Enrolment[b]	Percentage of Population[b]
1946	4,093.0	1946-47	441,333	108,877	539,012	10.8	2.7	13.2	123,846	3.0	662,858	16.2
1947	4,176.0	1947-48	453,116	111,413	550,035	10.9	2.7	13.2	123,085	3.0	673,120	16.2
1948	4,275.0	1948-49	469,517	115,507	571,459	11.0	2.7	13.4	125,234	2.9	696,693	16.3
1949	4,378.0	1949-50	493,532	122,687	592,726	11.3	2.8	13.5	127,250	2.9	719,976	16.4
1950	4,471.0	1950-51	508,364	127,253	612,182	11.4	2.9	13.7	131,215	2.9	743,397	16.6
1951	4,597.5	1951-52	544,483	134,117	654,506	11.8	2.9	14.2	133,556	2.9	788,062	17.1
1952	4,788.0	1952-53	588,344	146,668	712,892	12.3	3.1	14.9	141,091	3.0	853,983	17.9
1953	4,941.0	1953-54	620,446	162,738	768,397	12.6	3.3	15.6	148,744	3.0	917,141	18.6
1954	5,115.0	1954-55	643,961	174,198	821,736	12.6	3.4	16.1	160,166	3.1	981,902	19.2
1955	5,266.0	1955-56	676,246	187,368	863,614	12.8	3.6	16.4	174,562	3.3	1,038,176	19.7
1956	5,404.9	1956-57	706,319	205,577	911,896	13.1	3.8	16.9	185,605	3.4	1,097,501	20.3
1957	5,636.0	1957-58	747,236	223,881	971,117	13.3	4.0	17.2	203,525	3.6	1,174,642	20.8
1958	5,821.0	1958-59	784,167	243,431	1,027,598	13.5	4.2	17.7	222,075	3.8	1,249,673	21.5
1959	5,969.0	1959-60	817,880	263,769	1,081,649	13.7	4.4	18.1	237,576	4.0	1,319,225	22.1
1960	6,111.0	1960-61	843,737	282,651	1,126,388	13.8	4.6	18.4	262,775	4.3	1,389,163	22.7
1961	6,236.1	1961-62	861,715	301,338	1,163,053	13.8	4.8	18.6	299,177	4.8	1,462,230	23.4
1962	6,351.0	1962-63	880,198	316,831	1,197,029	13.9	5.0	18.9	331,578	5.2	1,528,607	24.1
1963	6,481.0	1963-64	901,830	331,334	1,233,164	13.9	5.1	19.0	364,210	5.6	1,597,374	24.6
1964	6,631.0	1964-65	925,068	353,405	1,278,473	14.0	5.3	19.3	395,301	6.0	1,673,774	25.3
1965	6,788.0	1965-66	949,374	370,669	1,320,043	14.0	5.5	19.5	418,738	6.2	1,738,781	25.7
1966	6,960.9	1966-67	976,900	387,971	1,364,871	14.0	5.6	19.6	436,026	6.3	1,800,897	25.9
1967	7,149.0	1967-68	1,002,555	402,497	1,405,052	14.0	5.6	19.7	463,736	6.5	1,868,788	26.2
1968	7,306.0	1968-69	1,021,676	408,914	1,430,590	14.0	5.6	19.6	500,807	6.9	1,931,397	26.5
1969	7,452.0	1969-70	1,042,561	413,556	1,456,117	14.0	5.6	19.5	530,679	7.1	1,986,796	26.6
1970	7,637.0	1979-71	1,047,055	418,433	1,465,488	13.7	5.5	19.2	556,913	7.3	2,022,401	26.5
1971	7,703.1	1971-72	1,034,703	422,137	1,456,840	13.4	5.5	18.9	574,520	7.5	2,031,360	26.4

Notes: [a] Net enrolment 1946-47 to 1954-55 inclusive.

[b] The total enrolment is gross enrolment. Consequently, the Total Enrolment for each of the years 1946-47 to 1954-55 inclusive is different from the sum of the net enrolments for Public Schools and Roman Catholic Separate Schools. For the same reason the Percentage of Population is different for each of the years 1947-48 to 1955-56 inclusive.

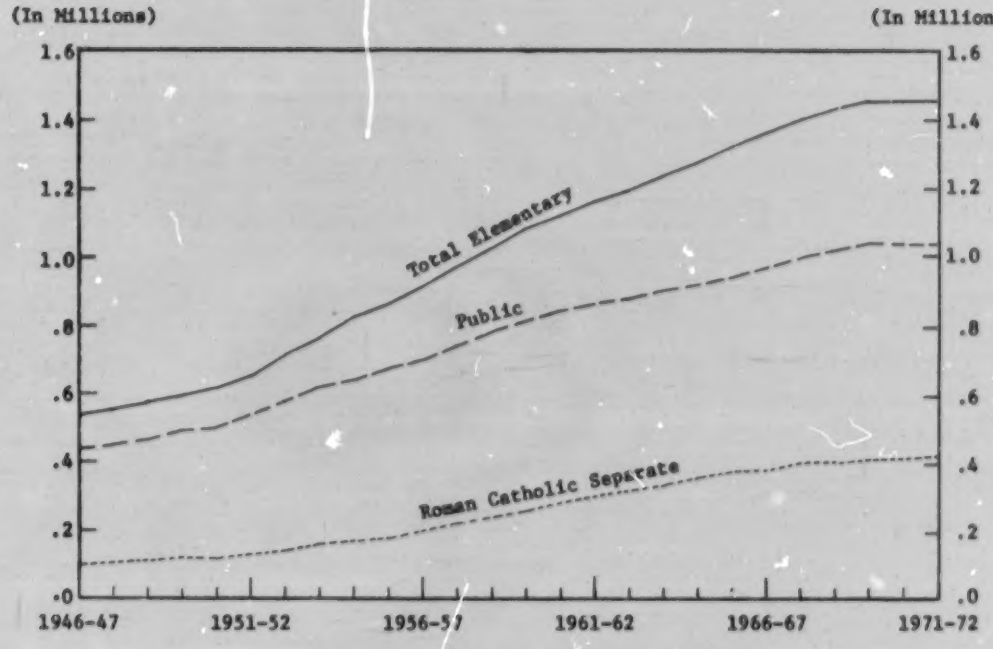
Sources: [1] Reports of the Minister of Education, 1946 to 1971.

[2] Figures for other than census years are estimates of Statistics Canada.

GRAPH 15

ENROLMENT IN ELEMENTARY SCHOOLS, ONTARIO

1946-47 to 1971-72

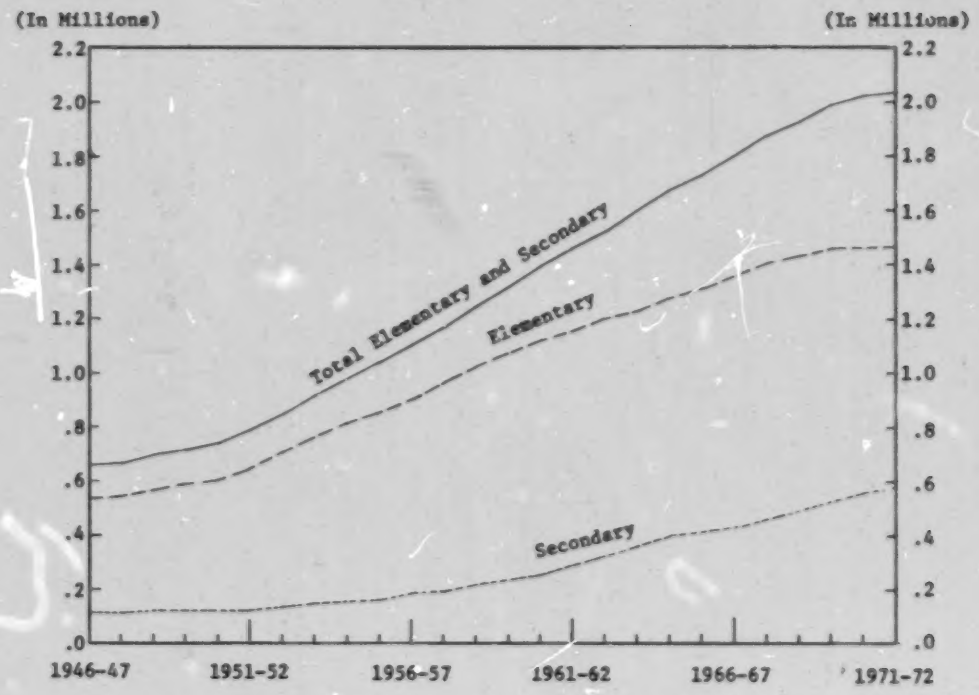


Source: Table 34.

GRAPH 16

ENROLMENT IN ELEMENTARY AND SECONDARY SCHOOLS, ONTARIO

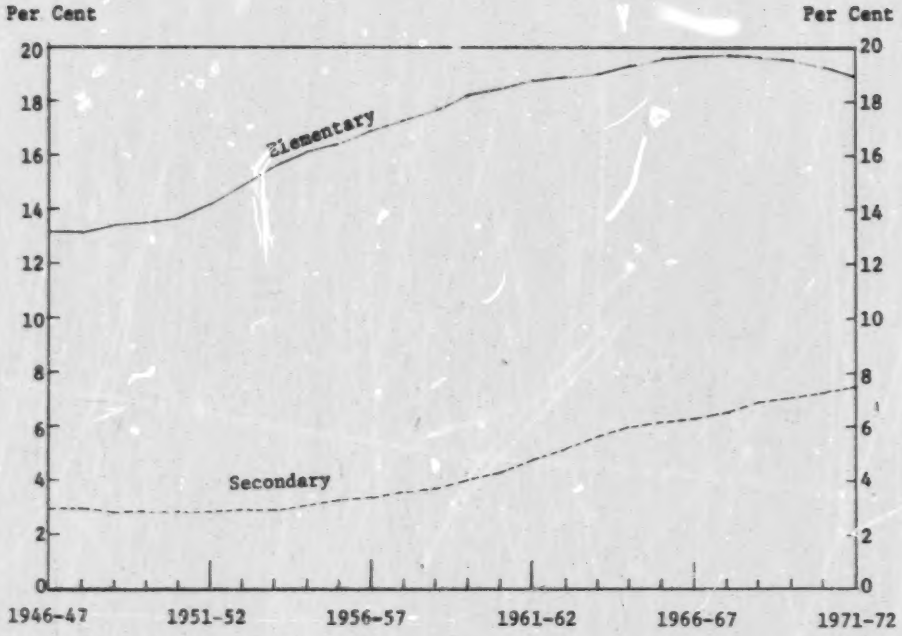
1946-47 to 1971-72



Source: Table 34.

GRAPH 17

ENROLMENT IN ELEMENTARY AND SECONDARY SCHOOLS AS PERCENTAGE OF TOTAL POPULATION, ONTARIO
1946-47 to 1971-72



Source: Table 34.

pared with the previous decade. Correspondingly, the share of the increase in the Separate Schools went up from 27 per cent to 40 per cent. It is obvious that a trend had begun which not only had significance for expansion of educational facilities and programs at the time but also had implications for future growth in the two systems.

Annual Increase

On the basis of gross enrolment figures, the increase in elementary school enrolment in 1947-48 was 2 per cent over the enrolment in 1946-47 (Table 35). Thereafter, the rate of increase was over 3 per cent until it more than doubled in the year 1951-52. The highest rate of increase recorded was in 1952-53 at 8.9 per cent. From that point on, except for minor increases in 1956-57 and 1957-58, there was a gradual decline in the rate of increase until it reached the low point of .6 per cent in 1970-71. In 1971-72, an actual decline of .6 per cent was recorded. The annual increase in the numbers enrolled reached a high of 59,221 in 1957-58 and then began to decline until it reached 9,371 in 1970-71. The first actual decrease occurred in 1971-72 when there were 8,648 fewer students enrolled. During the period 1964-65 to 1967-68, increases in enrolments fluctuated in the range of 45,309 to 40,181. But in 1968-69, there was a substantial decline to 25,538, which was sustained in the next year at 25,527. Again in 1970-71, another decline in the increase took place, followed by an actual decrease in enrolment of 8,648 in 1971-72. It is evident that after 1967-68 the statistics support a position of caution in terms of expansion of educational facilities and programs.

Enrolment as Proportion of Population

In 1946-47, total gross enrolment in the elementary schools as a proportion of the total population was 13.2 per cent (Table 34). This percentage increased each year until it reached a high point of 19.7 per cent in 1967-68, or 6.5 per cent higher than in 1946-47. Since 1967-68, it

TABLE 35

ENROLMENT[1] AND ANNUAL INCREASE IN ELEMENTARY SCHOOLS, ONTARIO

1946-47 to 1971-72

School Year	Public			Roman Catholic Separate			Total Elementary[b]		
	Total Enrolment[a]	Annual Increase	Per Cent Increase	Total Enrolment[a]	Annual Increase	Per Cent Increase	Total Enrolment	Annual Increase	Per Cent Increase
1946-47	441,333			108,877			539,012		
1947-48	453,116	11,783	2.7	111,413	2,536	2.3	550,035	11,023	2.0
1948-49	469,517	16,401	3.6	115,507	4,094	3.7	571,459	21,424	3.9
1949-50	493,532	24,015	5.1	122,687	7,180	6.2	592,726	21,267	3.7
1950-51	508,364	14,832	3.0	127,253	4,566	3.7	612,182	19,456	3.3
1951-52	544,483	36,119	7.1	134,117	6,864	5.4	654,506	42,324	6.9
1952-53	588,344	43,861	8.1	146,668	12,551	9.4	712,892	58,386	8.9
1953-54	620,446	32,102	5.5	162,738	16,070	11.0	768,397	55,505	7.8
1954-55	643,961	23,515	3.8	174,198	11,460	7.0	821,736	53,339	6.9
1955-56	676,246	32,285	5.0	187,368	13,170	7.6	863,614	41,878	5.1
1956-57	706,319	30,073	4.4	205,577	18,209	9.7	911,896	48,282	5.6
1957-58	747,236	40,917	5.8	223,881	18,304	8.9	971,117	59,221	6.5
1958-59	784,167	36,931	4.9	243,431	19,550	8.7	1,027,598	56,481	5.8
1959-60	817,880	33,713	4.3	263,769	20,338	8.4	1,081,649	54,051	5.3
1960-61	843,737	25,857	3.2	282,651	18,882	7.2	1,125,388	44,739	4.1
1961-62	861,715	17,978	2.1	301,338	18,687	6.6	1,162,053	36,665	3.3
1962-63	880,198	18,483	2.1	316,831	15,493	5.1	1,197,029	33,976	2.9
1963-64	901,830	21,632	2.5	331,334	14,503	4.6	1,233,164	36,135	3.0
1964-65	925,068	23,238	2.6	353,405	22,071	6.7	1,278,473	45,309	3.7
1965-66	949,374	24,306	2.6	370,669	17,264	4.9	1,320,043	41,570	3.3
1966-67	976,900	27,526	2.9	387,971	17,302	4.7	1,364,871	44,828	3.4
1967-68	1,002,555	25,655	2.6	402,497	14,526	3.7	1,405,052	40,181	2.9
1968-69	1,021,676	19,121	1.9	408,914	6,417	1.6	1,430,590	25,538	1.8
1969-70	1,042,561	20,885	2.0	413,556	4,642	1.1	1,456,117	25,527	1.8
1970-71	1,047,055	4,494	.4	418,433	4,877	1.2	1,465,488	9,371	.6
1971-72	1,034,703	-12,352	-1.2	422,137	3,704	.9	1,456,840	-8,648	-.6

Note: [a] Net enrolment 1946-47 to 1954-55 inclusive.

[b] The total enrolment is gross enrolment. Consequently, the Total Enrolment for each of the years 1946-47 to 1954-55 inclusive is different from the sum of the net enrolments for Public Schools and Roman Catholic Separate Schools. For the same reason the Annual Increase and the Per Cent Increase are different for each of the years 1947-48 to 1955-56 inclusive.

Source: [1] Reports of the Minister of Education, 1946 to 1971.

has declined each year to 18.9 per cent in 1971-72. Therefore, the net increase between 1946-47 and 1971-72 was 5.7 per cent. During the period 1946-47 to 1971-72, the enrolment in Public Schools as a proportion of the total population increased steadily from 10.8 per cent based on net enrolment in 1946-47 to 14.0 per cent based on gross enrolment in 1964-65. It remained almost constant at 14.0 per cent for the next five years before it declined to 13.4 per cent in 1971-72. The comparative percentages of 10.8 and 13.4 mean that there was a net increase of 2.6 per cent. In the Roman Catholic Separate Schools, the proportion of enrolment to total population rose from 2.7 per cent based on net enrolment in 1946-47 to a high of 5.6 per cent based on gross enrolment in 1966-67, before it dropped back to 5.5 per cent in 1971-72, a net change between 1946-47 and 1971-72 of 2.8 per cent.

A highlight of the enrolment pattern in the 1950's and 1960's was the increased rate of absorption of those aged 5-14 into the elementary schools (Table 36). In 1946, the total population of Ontario was 4,093,000. Of this number, 631,800 or 15.4 per cent were within the ages 5-14. In 1970, the total population was 7,637,000, and the number aged 5-14 was 1,582,300, or 20.7 per cent. In the period 1946 to 1970, therefore, the proportion of the total population in the age group 5-14 increased from 15.4 per cent in 1946 to a high of almost 21.0 per cent in the years 1966, 1967, and 1968, before it began to decline slightly. By 1970, the percentage was 20.7. These changes took place within a total population that increased from 4,093,000 in 1946 to 7,637,000 in 1970, or 86.6 per cent.

Program Influences on Enrolment

The introduction of new programs in some schools and the extension of other programs are among the factors that have been responsible for some increase in enrolment. Kindergarten classes and special education programs are two examples. In 1946-47, the enrolment in kindergartens in the Public Schools and Roman Catholic Separate Schools together was 26,706 (Table 37 and Table 38). Almost all of these were in senior kin-

TABLE 36

PROVINCIAL POPULATION[1] AND SCHOOL ENROLMENT[2], ONTARIO

1946-47 to 1971-72

	Elementary				Secondary				
Year	Population of Ontario Aged 5-14 (000)	School Year	Total Enrolment	Percentage of Enrolment Aged 5-14	Year	Population of Ontario Aged 15-19 (000)	School Year	Total Enrolment	Percentage of Enrolment Aged 15-19
1946	631.8	1946-47	539,012	85.3	1946	329.4	1946-47	123,846	37.6
1947	643.0	1947-48	550,035	85.5	1947	327.0	1947-48	123,085	37.6
1948	657.7	1948-49	571,459	86.9	1948	324.0	1948-49	125,234	38.7
1949	677.1	1949-50	592,726	87.5	1949	322.0	1949-50	127,250	39.5
1950	697.2	1950-51	612,182	87.8	1950	320.1	1950-51	131,215	41.0
1951	724.6	1951-52	654,506	90.3	1951	315.7	1951-52	133,556	42.3
1952	787.6	1952-53	712,892	90.5	1952	323.3	1952-53	141,091	43.6
1953	836.4	1953-54	768,397	91.9	1953	329.1	1953-54	148,744	45.2
1954	890.8	1954-55	821,736	92.2	1954	335.6	1954-55	160,166	47.7
1955	941.6	1955-56	863,614	91.7	1955	341.4	1955-56	174,562	51.1
1956	989.6	1956-57	911,896	92.1	1956	346.8	1956-57	185,605	53.5
1957	1,046.4	1957-58	971,117	92.8	1957	364.9	1957-58	203,525	55.8
1958	1,103.7	1958-59	1,027,598	93.1	1958	386.0	1958-59	222,075	57.5
1959	1,149.3	1959-60	1,081,649	94.1	1959	401.0	1959-60	237,576	59.2
1960	1,197.8	1960-61	1,126,388	94.0	1960	420.2	1960-61	262,775	62.6
1961	1,267.6	1961-62	1,163,053	91.8	1961	436.9	1961-62	299,177	68.5
1962	1,301.4	1962-63	1,197,029	92.0	1962	466.9	1962-63	331,578	71.0
1963	1,337.1	1963-64	1,233,164	92.2	1963	503.4	1963-64	364,210	72.4
1964	1,373.8	1964-65	1,278,473	93.1	1964	539.8	1964-65	395,301	73.2
1965	1,413.3	1965-66	1,320,043	93.4	1965	571.3	1965-66	418,738	73.3
1966	1,458.3	1966-67	1,364,871	93.6	1966	599.2	1966-67	436,026	72.8
1967	1,498.1	1967-68	1,405,052	93.8	1967	626.3	1967-68	463,736	74.0
1968	1,532.0	1968-69	1,430,590	93.4	1968	649.8	1968-69	500,807	77.1
1969	1,557.2	1969-70	1,456,117	93.5	1969	667.6	1969-70	530,679	79.5
1970	1,582.3	1970-71	1,465,488	92.6	1970	692.5	1970-71	556,913	80.4
1971	1,571.2	1971-72	1,456,840	92.7	1971	713.4	1971-72	574,520	80.5

Sources: [1]Figures for other than census years are estimates of Statistics Canada.

[2]Reports of the Minister of Education, 1946 to 1971.

TABLE 37

ENROLMENT BY GRADE IN PUBLIC ELEMENTARY SCHOOLS

1946-47 to 1971-72

School Year	Grade											Special Education	Total[a]
	Kgn.	1	2	3	4	5	6	7	8	9	10		
1946-47	26,339	63,287	54,563	50,757	49,456	49,008	48,507	46,518	46,244	1,831	796	4,027	441,333
1947-48	30,313	65,765	56,280	51,504	51,335	50,375	48,069	46,073	46,077	1,836	872	4,617	453,116
1948-49	32,868	70,709	59,857	53,639	52,507	52,519	48,903	46,457	45,109	1,672	725	4,552	469,517
1949-50	36,469	73,400	64,967	57,949	54,427	54,225	51,654	47,187	46,474	1,691	717	4,372	493,532
1950-51	37,416			202,408[b]			166,543[c]	49,346	45,441	1,873	704	4,633	508,364
1951-52	50,032			209,166[b]			179,042[c]	51,697	47,994	1,541	707	4,304	544,483
1952-53	56,845			228,614[b]			191,312[c]	54,098	50,440	1,616	580	4,839	588,344
1953-54	54,215			252,329[b]			196,473[c]	58,393	51,929	1,716	576	4,815	620,446
1954-55	54,625			268,049[b]			199,377[c]	61,245	54,401	1,166	301	4,797	643,961
1955-56	57,022	96,339	91,229	91,685	76,529	67,163	65,189	65,067	59,338	612	308	5,765	676,246
1956-57	61,341	97,179	92,173	89,500	85,696	79,099	67,351	64,901	61,874	381	159	6,665	706,319
1957-58	67,685	101,479	94,028	90,829	86,274	88,637	79,388	67,862	62,457	547	186	7,864	747,236
1958-59	71,896	107,041	96,423	91,692	86,469	88,622	87,593	79,823	65,441	378	187	8,602	784,167
1959-60	75,057	109,972	101,798	93,910	87,165	88,649	87,724	87,767	76,384	281	118	9,055	817,880
1960-61	77,479	113,007	104,476	98,376	89,293	89,296	87,994	88,596	84,158	247	149	10,666	843,737
1961-62	80,116	113,269	106,627	100,953	93,529	91,376	88,863	89,611	85,132	318	254	11,667	861,715
1962-63	82,745	114,929	107,050	103,104	96,240	95,559	90,830	90,072	86,439	327	165	12,738	880,198
1963-64	85,823	117,165	108,961	104,124	98,731	98,525	95,021	92,166	87,168	661	430	13,055	901,830
1964-65	88,677	119,433	110,230	106,226	99,833	101,078	98,553	96,928	89,247	344	308	14,211	925,068
1965-66	92,831	121,752	112,371	107,448	101,674	102,455	101,135	100,203	93,586	83	39	15,797	949,374
1966-67	96,109	124,405	115,517	110,352	104,326	104,517	103,108	103,571	97,672	55	22	17,246	976,900
1967-68	101,293	125,120	117,385	112,889	107,575	106,774	105,124	104,779	100,773	13	1	20,829	1,002,555
1968-69	106,874	124,240	117,971	114,264	109,595	109,324	107,010	106,246	102,372	25	1	23,754	1,021,676
1969-70	116,914	123,804	117,726	115,076	112,257	112,156	110,489	108,662	103,839	24	1	21,613	1,042,561
1970-71	112,832	121,801	117,390	115,377	112,900	113,482	111,788	111,283	105,984	15	5	24,198	1,047,055
1971-72	106,815	113,032	115,771	114,629	112,853	113,106	113,027	112,770	108,461	-	-	24,239	1,034,703

Notes: [a] Net enrolment 1946-47 to 1954-55.

[b] Total of grades 1 to 3.

[c] Total of grades 4 to 6.

Source: Reports of the Minister of Education, 1946 to 1971.

TABLE 38

ENROLMENT BY GRADE IN ROMAN CATHOLIC SEPARATE SCHOOLS

1946-47 to 1971-72

School Year	Grade											Special Education	Total[a]
	Kgn.	1	2	3	4	5	6	7	8	9	10		
1946-47	367	16,089	14,033	12,867	13,220	12,865	11,976	10,862	10,351	3,188	2,463	596	108,877
1947-48	623	16,983	14,441	13,168	13,248	13,254	12,236	11,135	10,124	3,193	2,383	625	111,413
1948-49	937	18,162	15,423	13,491	13,801	13,341	12,695	11,230	10,415	3,077	2,388	547	115,507
1949-50	1,620	19,049	16,797	14,841	14,639	14,115	13,181	11,686	10,794	3,100	2,275	590	122,687
1950-51	2,381			52,209[b]			43,469[c]	11,935	10,824	3,486	2,330	619	127,253
1951-52	4,029			53,707[b]			45,770[c]	12,729	11,002	3,647	2,567	666	134,117
1952-53	5,299			59,711[b]			48,989[c]	13,477	11,765	4,081	2,688	658	146,668
1953-54	6,689			67,277[b]			52,789[c]	15,002	12,751	4,568	3,006	656	162,738
1954-55	7,091			74,549[b]			55,172[c]	15,472	13,632	4,589	3,130	563	174,198
1955-56	7,707	27,659	26,133	24,814	21,539	19,826	18,061	17,172	14,588	5,442	3,778	649	187,368
1956-57	8,939	30,014	27,413	26,781	24,200	23,442	19,547	18,294	15,833	6,118	4,318	678	205,577
1957-58	9,388	32,226	29,679	28,062	26,280	26,225	23,146	19,595	17,035	6,792	4,793	660	223,881
1958-59	11,017	34,880	31,567	29,582	27,689	27,677	25,996	22,972	18,313	7,542	5,453	743	243,431
1959-60	13,546	36,593	34,000	31,457	29,258	29,093	27,428	25,878	21,528	8,185	5,951	852	263,769
1960-61	15,714	39,284	35,621	33,469	31,410	29,947	28,813	26,764	24,103	10,053	6,362	1,111	282,651
1961-62	18,917	40,812	37,858	34,973	33,164	31,953	29,455	28,498	25,355	11,181	7,785	1,387	301,338
1962-63	21,580	42,305	39,646	37,034	34,639	33,825	31,354	29,273	26,975	10,472	[illegible]	1,630	316,831
1963-64	23,474	44,642	40,765	38,828	36,426	35,138	33,331	30,768	27,583	10,488	[illegible]	2,098	331,334
1964-65	30,493	45,723	43,178	40,211	38,222	36,971	34,317	32,986	29,276	10,480	[illegible]	3,115	353,405
1965-66	35,151	47,577	43,861	42,317	39,834	38,613	36,140	33,951	30,890	10,456	7,967	3,912	370,669
1966-67	37,895	48,934	45,887	43,414	41,774	39,944	38,067	36,066	32,454	10,313	8,292	4,931	387,971
1967-68	38,766	48,396	46,973	44,589	42,872	41,656	39,248	37,829	34,560	11,473	9,549	6,586	402,497
1968-69	39,930	47,253	46,872	46,059	43,911	42,371	41,173	39,054	36,490	10,289	8,346	7,166	408,914
1969-70	41,451	45,893	45,730	45,764	45,339	43,425	42,373	40,965	37,783	9,831	8,515	6,487	413,556
1970-71	41,633	45,290	44,985	45,111	45,233	45,031	43,215	42,309	39,904	9,818	9,004	6,900	418,433
1971-72	42,333	42,019	44,657	44,518	44,710	45,168	44,959	43,480	41,147	11,279	11,301	6,566	422,137

Notes: [a] Net enrolment 1946-47 to 1954-55.

[b] Total of grades 1 to 3.

[c] Total of grades 4 to 6.

Source: Reports of the Minister of Education, 1946 to 1971.

dergartens for five-year-olds. By 1969-70, senior kindergartens wer extended into many other school board jurisdictions, including those rural areas, and junior kindergartens for four-year-olds had been prc vided in many urban centres. The enrolment in both types in 1969-70 was 158,365, an increase of 493 per cent between 1946-47 and 1969-70. In 1970-71, total enrolment in kindergartens began to decline, with th result that there were 149,148 enrolled in 1971-72. If the years 1946-47 and 1971-72 are used for comparative purposes, the increase in enrol ment in kindergartens is 13.5 per cent of the increase in total enrolment in the elementary schools.

Between 1946-47 and 1971-72, enrolment in special education programs increased substantially. Until 1968-69, the pertinent statistics were reported under the designation of "auxiliary" and thereafter as "special education". The significant growth years were during the 1960's. In the period from 1946-47 to 1971-72, the numbers reported as being in these programs indicated an increase of 566 per cent in enrolment in special education programs. There was, therefore, a very considerable growth in special education in excess of the growth in total enrolment.

Retention of Students

Part of the increase in total enrolment in the elementary schools can be attributed to the higher retention rates of those who remained in school until successful completion of their programs (Table 39). In the school year 1946-47, there were 17,634 students who "ceased to attend any school". This group constituted close to 3.3 per cent of the enrolment reported in September, 1946. The number who left during the school year 1968-69 was 3,347 or a negligible 0.2 per cent of the enrolment in September, 1968. The change can be attributed to a number of factors including the construction of schools in remote areas, extended and improved school bus transportation, provision for payment on behalf of students who have to live away from home, compulsory attendance until the age of sixteen, better health care, improved economic conditions, and

TABLE 39

RETIREMENTS TO ENROLMENT IN ELEMENTARY SCHOOLS, ONTARIO

1946-47 to 1968-69

School Year	Elementary		
	Enrolment	Retirements[a]	Per Cent
1946-47	539,012	17,634	3.3
1947-48	550,035	16,167	2.9
1948-49	571,459	15,956	2.8
1949-50	592,726	15,173	2.6
1950-51	612,182	14,056	2.3
1951-52	654,506	12,780	2.0
1952-53	712,892	12,715	1.8
1953-54	768,397	14,818	1.9
1954-55	821,736	12,702	1.5
1955-56	863,614	13,377	1.5
1956-57	911,896	12,875	1.4
1957-58	971,117	12,444	1.3
1958-59	1,027,598	12,827	1.2
1959-60	1,081,649	12,332	1.1
1960-61	1,136,388	10,989	1.0
1961-62	1,161,053	12,004	1.0
1962-63	1,199,029	11,423	1.0
1963-64	1,233,164	9,182	.7
1964-65	1,278,473	8,418	.7
1965-66	1,320,043	6,847	.5
1966-67	1,364,871	5,318	.4
1967-68	1,405,052	4,170	.3
1968-69	1,430,590	3,347	.2

Note: [a] Retirements for the period ending on the last school day in September in a given year are taken as a percentage of the enrolment as of September of the previous year.

Source: Reports of the Minister of Education, 1946 to 1970.

increasing recognition of the importance of education.

Secondary

In 1946-47, there were 123,846 students enrolled in the secondary schools (Table 40). In 1971-72, the enrolment was 574,520, or an increase of 363.9 per cent. During the period 1946-47 to 1971-72, the enrolment in grade 9 increased by 279.2 per cent, in grade 10 by 336.1 per cent, in grade 11 by 443.2 per cent, in grade 12 by 523.2 per cent, and in grade 13 by 427.4 per cent.

Annual Increase

Enrolment at the secondary school level began to increase in 1948-49. Since then, the annual rate of increase has varied from 1.7 per cent in 1948-49 to a high of 13.8 per cent in 1961-62 (Table 41). The rate of increase has been decelerating steadily since 1961 and in 1971 was a modest 3.2 per cent. In terms of actual numbers enrolled, the annual increase has fluctuated between a low of 2,016 in 1949-50 and a high of 37,071 in 1968-69. Between 1968-69 and 1971-72, the increase declined by 19,464 to 17,607.

Enrolment as Proportion of Population

In 1946-47, enrolment in the secondary schools as a proportion of the total population was 3.0 per cent (Table 34). This percentage declined slightly and remained at a consistent 2.9 per cent from 1948-49 to 1951-52. Thereafter, it increased gradually but steadily to account for 7.5 per cent in 1971-72. The increase in the proportion of population enrolled in the secondary schools from 1946-47 to 1971-72 was 4.5 per cent.

The increase in the proportion of the population of the age group 15-19 enrolled in secondary schools since 1946 is particularly significant (Table 36). In 1946-47, only 37.6 per cent of this age group was in at-

TABLE 40

ENROLMENT BY GRADE IN SECONDARY SCHOOLS, ONTARIO

1946-47 to 1971-72

School Year	GRADE 9	10	11	12	13	Special Vocational	Total
1946-47	41,518	32,548	22,413	16,325	9,797	1,245	123,846
1947-48	39,863	32,096	22,843	17,694	9,415	1,174	123,085
1948-49	42,492	31,396	22,697	17,977	9,506	1,166	125,234
1949-50	43,603	32,631	22,081	18,075	9,660	1,200	127,250
1950-51	46,191	33,886	22,931	17,576	9,457	1,174	131,215
1951-52	46,085	35,384	23,833	18,300	8,827	1,127	133,556
1952-53	49,549	36,946	25,321	19,245	8,975	1,055	141,091
1953-54	51,858	39,477	26,458	20,441	9,472	1,038	148,744
1954-55	55,387	42,262	29,133	21,713	9,981	1,190	160,166
1955-56	61,911	45,251	31,489	23,846	10,799	1,266	174,562
1956-57	66,354	48,640	32,830	25,041	11,487	1,253	185,605
1957-58	72,063	53,654	37,177	26,769	12,547	1,315	203,525
1958-59	74,604	59,109	41,718	31,058	14,278	1,308	222,075
1959-60	76,598	60,829	45,552	34,792	16,267	3,538	237,576
1960-61	88,607	64,783	47,833	38,697	18,447	4,408	262,775
1961-62	100,988	76,290	52,681	42,266	21,482	5,470	299,177
1962-63	103,866	86,012	61,733	46,776	23,750	9,441	331,578
1963-64	103,526	90,817	70,302	55,731	26,262	17,572	364,210
1964-65	105,899	93,453	77,922	64,418	32,770	20,839	395,301
1965-66	110,997	96,299	80,710	67,282	37,692	25,758	418,738
1966-67	117,582	100,710	83,963	70,625	35,007	28,139	436,026
1967-68	124,067	108,789	88,988	75,214	36,472	30,206	463,736
1968-69	131,082	117,425	98,585	82,371	40,087	31,257	500,807
1969-70	135,420	122,181	105,836	90,956	43,569	32,717	530,679
1970-71	153,826	139,961	116,116	98,837	48,173	-	556,913
1971-72	157,433	141,939	121,750	101,733	51,665	-	574,520

Source: Reports of the Minister of Education, 1946 to 1971.

TABLE 41

ENROLMENT[1] AND ANNUAL INCREASE IN SECONDARY SCHOOLS, ONTARIO

1946-47 to 1971-72

School Year	Enrolment	Annual Increase	Per Cent Increase
1946-47	123,846		
1947-48	123,085	-761	-6.1
1948-49	125,234	2,149	1.7
1949-50	127,250	2,016	1.6
1950-51	131,215	3,965	3.1
1951-52	133,556	2,341	1.8
1952-53	141,091	7,535	5.6
1953-54	148,744	7,653	5.4
1954-55	160,166	11,422	7.7
1955-56	174,562	14,396	9.0
1956-57	185,605	11,043	6.3
1957-58	203,525	17,920	9.7
1958-59	222,075	18,550	9.1
1959-60	237,576	15,501	7.0
1960-61	262,775	25,199	10.6
1961-62	299,177	36,402	13.8
1962-63	331,578	32,401	10.8
1963-64	364,210	32,632	9.8
1964-65	395,301	31,091	8.5
1965-66	418,738	23,437	5.9
1966-67	436,026	17,288	4.1
1967-68	463,736	27,710	6.3
1968-69	500,807	37,071	8.0
1969-70	530,679	29,872	6.0
1970-71	556,913	26,234	4.9
1971-72	574,520	17,607	3.2

Source: [1] Reports of the Minister of Education, 1946 to 1971.

tendance, whereas in 1971-72, the percentage was 80.5, an increase of 42.9 per cent in the twenty-five year period. What makes these figures even more noteworthy is that the increases in the percentage enrolled of the age group 15-19 took place during a period when the population in this age group rose from 329,400 in 1946 to 713,400 in 1971, or an increase of 116.6 per cent.

Program Influences on Enrolment

Several factors contributed to the spectacular increase in the percentage enrolled of the age group 15-19. In the period after World War II, there was a growing emphasis on the importance of education to the individual in terms of future employment, admission to the professions, and more rewarding opportunities. Economic expansion, aided by modern technology, required a continuous supply of skilled labour. The demand for qualified manpower provided an incentive for many students to continue their studies. In 1961, the reorganized program offering courses in three distinct fields of specialization represented by Arts and Science, Business and Commerce, and Science, Technology, and Trades, extended opportunities to many students who would not have been attracted by the exclusively academically-oriented courses offered in many schools. The creation of a greater number of composite schools, particularly in rural areas, and the extension of school bus transportation made the secondary school more easily accessible to many students.

Retention of Students

The retention rates of students in the secondary schools have shown a consistent and significant increase since World War II (Table 42). Retirements as compiled by the Ministry of Education include those who left school altogether between October 1 of a given year and September 30 of the next school year. In 1946-47, the number of retirements in grade 9 was 7,978 out of an enrolment of 41,518 or 19.2 per cent, leaving a retention rate of 80.8 per cent. In 1968-69, the retirements had de-

TABLE 42

RETIREMENTS TO ENROLMENT BY GRADE IN SECONDARY SCHOOLS, ONTARIO

1946-47 to 1968-69

School Year	Secondary								
	Grade 9			Grade 10			Grade 11		
	Enrolment	Retirements[a]	Per Cent	Enrolment	Retirements[a]	Per Cent	Enrolment	Retirements[a]	Per Cent
1946-47	41,518	7,978	19.2	32,548	7,374	22.7	22,413	5,375	24.0
1947-48	39,863	8,078	20.3	32,096	7,602	23.7	22,843	5,404	23.6
1948-49	42,492	8,444	19.9	31,396	7,157	22.8	22,697	5,036	22.2
1949-50	43,603	7,994	18.3	32,631	7,455	22.8	22,081	5,261	23.8
1950-51	46,791	9,704	21.0	33,886	8,160	24.1	22,931	5,346	23.3
1951-52	46,085	8,405	18.2	35,384	7,987	22.6	23,833	4,850	20.3
1952-53	49,549	8,312	16.8	36,946	7,634	20.7	25,321	5,443	21.5
1953-54	51,858	7,586	14.6	39,477	7,457	18.9	26,458	4,922	18.6
1954-55	55,887	8,942	16.0	42,262	9,198	21.8	29,133	5,285	18.1
1955-56	61,911	9,589	15.5	45,251	9,310	20.6	31,489	6,157	19.6
1956-57	66,354	9,185	13.8	48,640	8,995	18.5	32,830	5,840	17.8
1957-58	72,063	9,178	12.7	53,654	8,745	16.3	37,177	5,774	15.5
1958-59	74,604	9,966	13.4	59,109	9,841	16.6	41,718	6,720	16.1
1959-60	76,598	9,088	11.9	60,829	9,833	16.2	45,552	6,860	15.1
1960-61	88,607	8,149	9.2	64,783	8,804	13.6	47,833	5,959	12.5
1961-62	100,988	9,843	9.7	76,290	10,414	13.7	52,681	6,889	13.1
1962-63	103,866	9,568	9.2	86,012	10,772	12.5	61,733	7,094	11.5
1963-64	103,526	7,057	6.8	90,817	10,135	11.2	70,302	7,214	10.3
1964-65	105,899	4,789	4.5	93,453	8,125	8.7	77,922	6,512	8.4
1965-66	110,997	4,829	4.3	96,299	8,034	8.3	80,710	6,736	8.3
1966-67	117,582	3,551	3.0	100,710	6,391	6.3	83,963	5,319	6.3
1967-68	124,067	2,995	2.4	108,789	5,690	5.2	88,988	4,708	5.3
1968-69	131,082	2,996	2.3	117,425	6,556	5.6	98,585	5,319	5.4

	Grade 12			Grade 13			Total[b,c]		
1946-47	16,325	5,342[a]	32.7	9,797	4,582[a]	46.8	122,601	30,651	25.0
1947-48	17,694	5,866	33.0	9,415	4,006	42.5	121,911	30,933	25.4
1948-49	17,977	6,244	34.7	9,506	3,712	39.0	124,068	30,593	24.7
1949-50	18,075	6,699	37.1	9,660	3,817	39.5	126,050	31,226	24.8
1950-51	17,576	7,075	40.3	9,457	3,450	36.5	130,041	33,735	25.9
1951-52	18,300	7,236	39.5	8,827	2,913	33.0	132,429	31,391	23.7
1952-53	19,245	7,376	38.3	8,975	2,299	25.6	140,036	31,064	22.2
1953-54	20,441	8,100	39.6	9,472	2,900	30.6	147,706	30,959	21.0
1954-55	21,713	8,761	40.3	9,981	2,511	25.2	158,976	34,697	21.8
1955-56	23,846	9,478	39.7	10,799	2,443	22.6	173,296	36,977	21.3
1956-57	25,041	9,232	36.9	11,487	2,498	21.7	186,352	35,750	19.4
1957-58	26,769	8,941	33.4	12,547	2,698	21.5	202,210	35,336	17.5
1958-59	31,058	10,586	34.1	14,278	2,987	20.9	220,767	40,100	18.2
1959-60	34,792	11,261	32.4	16,267	3,124	19.2	234,038	40,166	17.2
1960-61	38,697	11,413	29.5	18,447	3,222	17.5	258,367	37,547	14.5
1961-62	42,266	13,693	32.4	21,482	4,398	20.5	293,707	45,237	15.4
1962-63	46,776	14,664	31.3	23,750	4,471	18.8	322,137	46,569	14.5
1963-64	55,731	16,313	29.3	26,262	4,917	18.7	346,638	45,636	13.2
1964-65	64,418	16,622	25.8	32,770	5,014	15.3	374,462	41,062	11.0
1965-66	67,282	21,284	31.6	37,692	6,114	16.2	392,980	46,997	12.0
1966-67	70,625	19,509	27.6	35,007	4,502	12.9	407,887	39,472	9.7
1967-68	75,214	17,945	23.8	36,472	3,525	9.7	433,530	34,863	8.0
1968-69	82,371	19,632	23.8	40,087	4,295	10.7	469,550	38,798	8.3

Notes: [a] Retirements for the period ending on the last school day in September in a given year are taken as a percentage of the enrolment as of September of the previous year.

[b] Majority of students held certificates at time of retirement; for example, 33,906 out of all retirements in 1968-69.

[c] Figures do not include unreported or ungraded students.

Source: Reports of the Minister of Education, 1946 to 1970.

creased to 2,996 in spite of an increase in enrolment to 131,082, resulting in a retirement rate of 2.3 per cent, so that the retention rate was 97.7 per cent for the grade. Similar trends are observed for grades 10 and 11. The retirement rate for grade 12 decreased from 32.7 per cent in 1946-47 to 23.8 per cent in 1968-69. The less spectacular decrease in retirements in grade 12 is due in large part to the fact that since more students have continued to attend in grades 9, 10, and 11, a greater number reaches a higher level in the school system. Of those who entered grade 13, only 10.7 per cent retired in 1968-69 so that 89.3 per cent remained until the end of the school year. It is interesting to note that of an enrolment of 16,325 in grade 12 in 1946-47, the retirements totalled 5,342 during the school year, leaving 10,893, but the number who enrolled in grade 13 in 1947-48 was 9,415. Therefore, the percentage enrolled in 1947-48 was 85.7, or 1,568 students fewer than the 10,983 remaining in grade 12 in 1946-47. Again, in 1968-69, the number enrolled in grade 12 was 82,371, of whom 19,632 retired, leaving 62,739, but the enrolment in grade 13 in 1969-70 was 43,569. Therefore, the percentage enrolled in 1969-70 was 69.4, or 19,170 students fewer than the 62,739 remaining in grade 12 in 1968-69. There was, therefore, a decrease from 85.7 per cent to 69.4 per cent during the period 1946-47 to 1969-70. As already noted, however, of those students who did enter grade 13, a far greater proportion stayed until the end of the year. The decrease in the percentage who went on to grade 13 is accounted for, at least in part, by the greater number who reached grade 12 but who, in earlier years, would have dropped out in grades 9, 10, or 11, and by the greater opportunities for education beyond grade 12 provided in the Colleges of Applied Arts and Technology.

While the statistics may not be in a form that makes exact comparisons possible for the different years, the total of the students who left school altogether in a given year for the five grades in the secondary school was 30,611 for 1946-47, or 25.0 per cent of the enrolment. In 1968-69, the retirements totalled 38,798, or 8.3 per cent of the enrolment

Retention rates for the secondary school are often expressed as a percent-

age of those who entered grade 9 in a specific year to the number who left grade 12 four years later, or grade 13 five years later. A word of caution is necessary in the use of these figures. For example, no overall statistics are kept about the students who entered grade 9 in a given year or the number of years the same students continued in school. Consequently, the loss of some dropouts in grade 9 may be compensated for by new entrants from outside the province into grade 10 the following year. There are other deficiencies in the data on a provincial basis that prevent an accurate conclusion about the retention rate among a particular group of students entering grade 9 in any given year. It should be possible, however, for individual schools to trace students throughout their school careers and for the results of such data to be communicated to the Ministry of Education for compilation of a provincial figure.

General

Earlier chapters of this report have dealt with a number of factors that have implications for school enrolment. Among these are total population, fertility rates, live births, mortality, and migration. The cumulative impact of these influences is reflected in the actual enrolments. Trends observed in statistics of enrolment are important in decision-making about many matters in education, but they must be analysed in terms of the effect of the influences referred to above. For example, at the elementary level the number of live births in 1950 was 108,708. By 1955-56, when these children would normally be expected to enter kindergarten if it were provided, the number enrolled was 64,729 or 59.5 per cent (Table 6). The number of live births increased each year until a peak was reached at 159,245 in 1960. In 1965-66, the enrolment in kindergarten was 127,982, or 80.4 per cent. Even though the number of live births began to decline in 1961 and continued to do so through 1966, the number enrolled in kindergarten continued to increase each year from 1966-67 to 1969-70. But these latter increases were due to factors other than the number of live births five years earlier. Because more school systems were instituting senior kindergartens and others were adding junior kindergartens, there was a distortion of the relationship between enrolment and the number of live

births five years earlier: a greater proportion of five-year-olds was entering senior kindergarten and many children were entering junior kindergartens at four years of age. Some evidence indicates that, in the absence of studies of demographic influences, the higher kindergarten enrolments between 1966-67 and 1969-70 and the consequent impact on total enrolments in those years obscured the fact that the number of live births began to decline in 1961. The result was that many school systems did not adequately take into account the fact that the potential demand for school accommodation had decreased.

Another important influence on enrolment was the immigration to Ontario during the 1960's (Table 30). In 1966 and 1967, the total number of immigrants reached peaks of 107,621 and 116,850 respectively. The numbers in the elementary school age range 5-14 were also at peaks of 16,556 and 16,077 and the numbers in the age group 15-19, from which most of the secondary students are drawn, were at high levels of 8,613 and 8,660. In addition, the numbers in the age group 0-4 reached highs of 11,852 and 11,228, all of whom were in elementary schools by 1971-72 and 1972-73. While a considerable proportion of these children enrolled in schools in Metropolitan Toronto, the impact of the increased enrolment due to immigration was felt in a number of other school jurisdictions throughout the province. The result was that the effect of the declining birth rates on enrolment for these boards was cushioned by an increase in immigration. Then, when immigration began to decline in 1968 and continued the trend through 1971, and when the birth rate also followed its downward pattern, the enrolment was affected dramatically.

These are but two illustrations of the need for a much more sophisticated and analytical approach to the forecast of future enrolments than the customary method of placing reliance for projections almost wholly on enrolments already present in the school.

Forecast of Enrolment, 1973-1981

A number of observations that will have an effect on future enrolments can be made about the patterns that have emerged in our analysis of population, fer-

tility, births, deaths, and migration. These may be expressed in summary as follows:

(a) The numbers of live births declined from a high of 150,245 in 1960 to a low of 126,257 in 1968. A slight increase to 130,398 occurred in 1969 and a further increase to 134,724 in 1970, but there was a decline to 130,395 in 1971 (Table 5).

(b) Birth rates have declined from a high of 26.8 in 1957 to a low of 17.3 in 1968. A slight increase occurred in 1969 and 1970 before a new low was reached at 16.9 in 1971 (Table 5).

(c) Fertility rates have been declining in all age-specific categories since 1960, with the major impact in terms of fewer births being felt in the prime childbearing age groups 20-24 and 25-29. The total fertility rate declined by 41.4 per cent from a high of 3,793 in 1960 to a low of 2,221 in 1971 (Table 12).

(d) Mortality rates for all age groups have been declining to the lowest levels ever experienced. Especially significant are the decreases in the rates among infants and the low levels reached for those of pre-school and school-going ages (Table 24).

(e) The number of immigrant arrivals has been declining since the high levels of 1966 and 1967 until the numbers in the age range 5-14 have dropped from 16,556 in 1966 to 8,554 in 1971. In the age group 15-19, the numbers have declined from a high of 8,613 in 1966 to 5,149 in 1971. In the age group 0-4, the decline is from 11,852 in 1966 to 5,322 in 1971 (Table 29).

The above statistics and the trends they support permit some conclusions to be drawn about future enrolments for the period to 1981, the end of the forecast period established by the Committee.

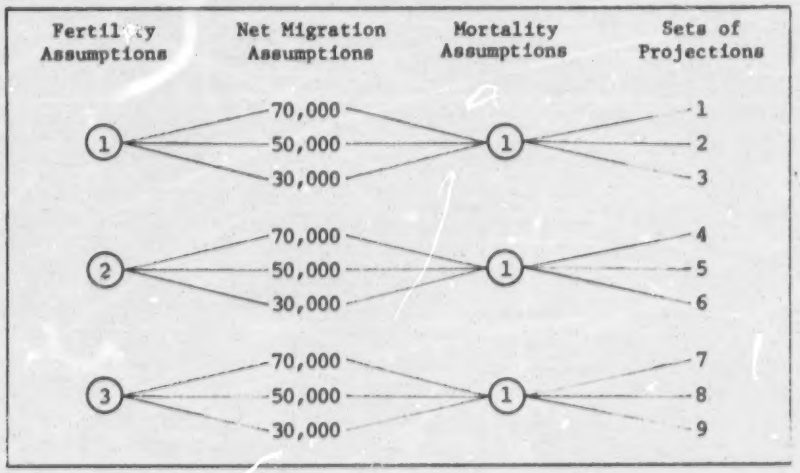
Population Projections

Since school enrolments are determined largely by the number of those of school

age in the total population, it is important to have a reliable forecast of the total population. A number of projections by various agencies at the national and provincial levels were examined in some detail. Because the assumptions, methodology, and specificity of purpose were closest to the needs of the Committee, the projections published by the Economic Analysis Branch, Department of Treasury and Economics, were adopted for use in the development of a forecast of enrolment.[1]

The projections were based on three fertility rates, all providing for a decline from the fertility rates observed in 1966. Three levels of net migration were assumed at 30,000, 50,000, and 70,000 per annum. It was also assumed that the mortality rate would be the same for all projections. An illustration of the combination of the assumptions that result in nine sets of projections is shown below.

COMBINATION OF ASSUMPTIONS ON WHICH POPULATION PROJECTIONS ARE BASED



[1] Preliminary Population Projections, 1971-1991, Economic Analysis Branch, Economic and Statistical Services Division, Department of Treasury and Economics, Toronto, June, 1971, Second Edition.

Population Projection A

For purposes of this projection, it was assumed that the total fertility rate and net migration would be at the intermediate levels. The age-specific fertility rates for the various age groups were expected to decline by between 3 to 5 per cent per annum until 1971 and then to remain constant until 1991.[2] Expressed in terms of total fertility rates, the decline was to be from 2,787 in 1966 to 2,156 in 1971, and then to remain at 2,156 until 1991. The annual net migration was assumed to be at the 50,000 level. The anticipated decline in mortality rates for the period 1966 to 1991 was expressed as follows:

Age Groups	Per Cent
0-1, 1-2, 2-3	25-34
3-4, 35-39, 40-44	15-24
25-29, 30-34, 45-49, 50-54, 55-59, 60-64, 80-[illegible]5, 85+	5-14
5-9, 10-14, 15-19, 20-24, 65-69, 70-74, 75-79	0-4

The combination of these assumptions is the basis for Population Projection A shown in Table 43, Graph 18, Graph 19, Graph 20 and Graph 21. The data shown in Table 43 are tabulated from computer printouts of population projections based on Preliminary Population Projections, 1971-1991, and in a number of cases are different from those in the publication itself. The computer printouts provide more accurate and up-to-date statistics.

Based on the population census in 1966, and the data provided in the computer printouts, the projection assumed an average annual growth in total population of 1.8 per cent to 1971 and of 1.7 per cent from 1971 to 1981.

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[2] Preliminary Population Projections for Ontario, 1971-1991, p. 4.

TABLE 43

PROJECTED POPULATION BY AGE GROUP, ONTARIO

Actual 1966[1]
Projection 1967 to 1981[2]

	Age Groups									
	0-4		5-14		15-19		20 and Over		Total	
Year	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent
					Actual					
1966	709,744	10.7	1,458,331	21.0	599,197	8.6	4,157,598	59.7	6,960,970	100
					Projection A					
1967	727,885	10.3	1,484,251	21.1	606,319	8.5	4,262,925	60.1	7,091,380	100
1968	705,313	9.8	1,526,299	21.1	622,042	8.6	4,365,335	60.5	7,218,989	100
1969	681,486	9.3	1,549,805	21.1	646,484	8.8	4,465,602	60.8	7,343,377	100
1970	667,991	8.9	1,557,448	20.9	673,770	9.0	4,565,528	61.2	7,464,737	100
1971	655,340	8.6	1,551,900	20.5	706,181	9.3	4,669,066	61.6	7,582,487	100
1972	642,704	8.3	1,546,541	20.1	731,246	9.5	4,776,689	62.1	7,697,180	100
1973	637,043	8.1	1,532,296	19.6	755,783	9.7	4,889,810	62.6	7,814,932	100
1974	638,499	8.0	1,511,613	19.1	776,470	9.8	5,009,356	63.1	7,935,938	100
1975	646,886	8.0	1,488,415	18.5	793,822	9.8	5,131,342	63.7	8,060,465	100
1976	662,308	8.1	1,436,416	17.8	807,511	9.9	5,262,113	64.2	8,188,348	100
1977	683,769	8.2	1,426,304	17.1	819,636	9.9	5,389,552	64.8	8,319,261	100
1978	705,454	8.4	1,397,469	16.5	828,283	9.8	5,521,956	65.3	8,453,162	100
1979	727,123	8.5	1,374,188	16.0	831,920	9.7	5,656,868	65.8	8,590,099	100
1980	748,225	8.6	1,368,014	15.7	822,749	9.4	5,790,865	66.3	8,729,853	100
1981	768,504	8.7	1,369,684	15.4	803,913	9.1	5,929,817	66.8	8,871,918	100

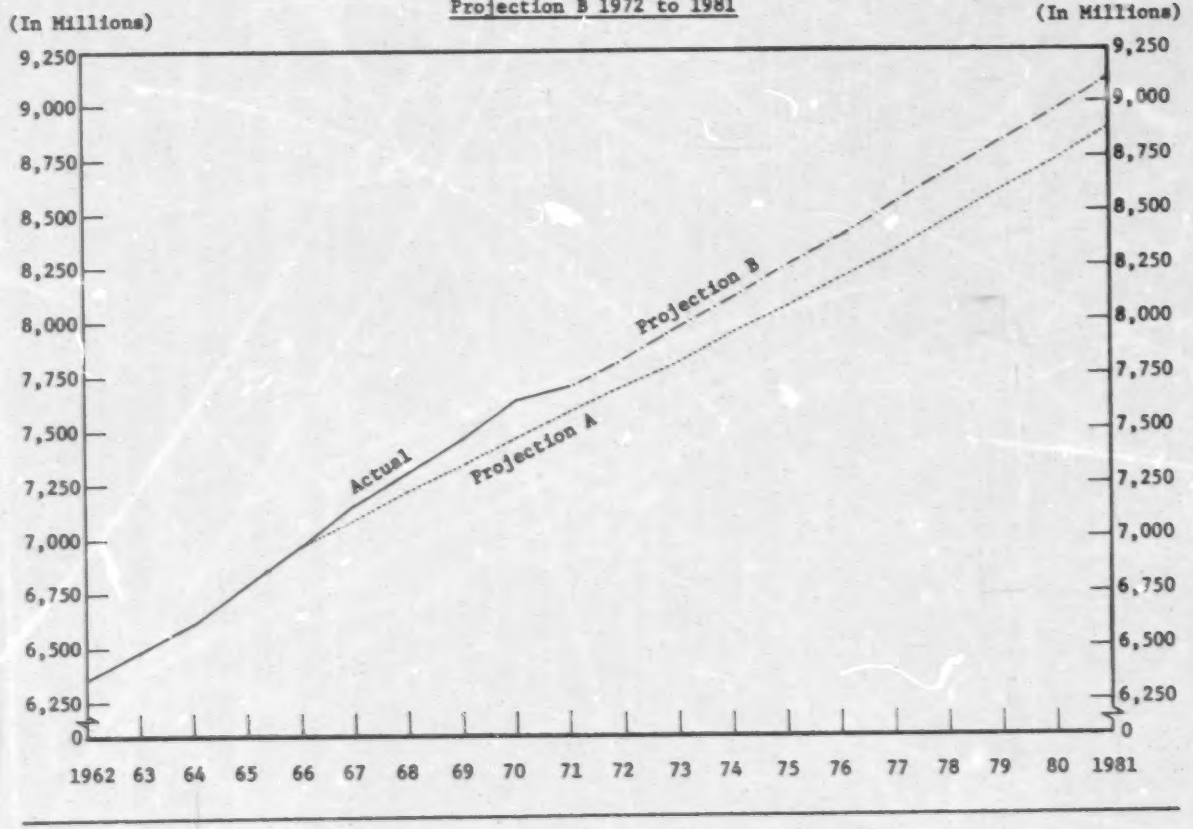
Sources: [1]Census of Canada, 1966, Statistics Canada.

[2]Tabulated from computer printouts of population projections based on Preliminary Population Projections for Ontario, 1971-1991, Economic Analysis Branch, Economic and Statistical Services Division, Department of Treasury and Economics, Toronto, December, 1968.

GRAPH 18

PROJECTED POPULATION, ALL AGES, ONTARIO

Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981

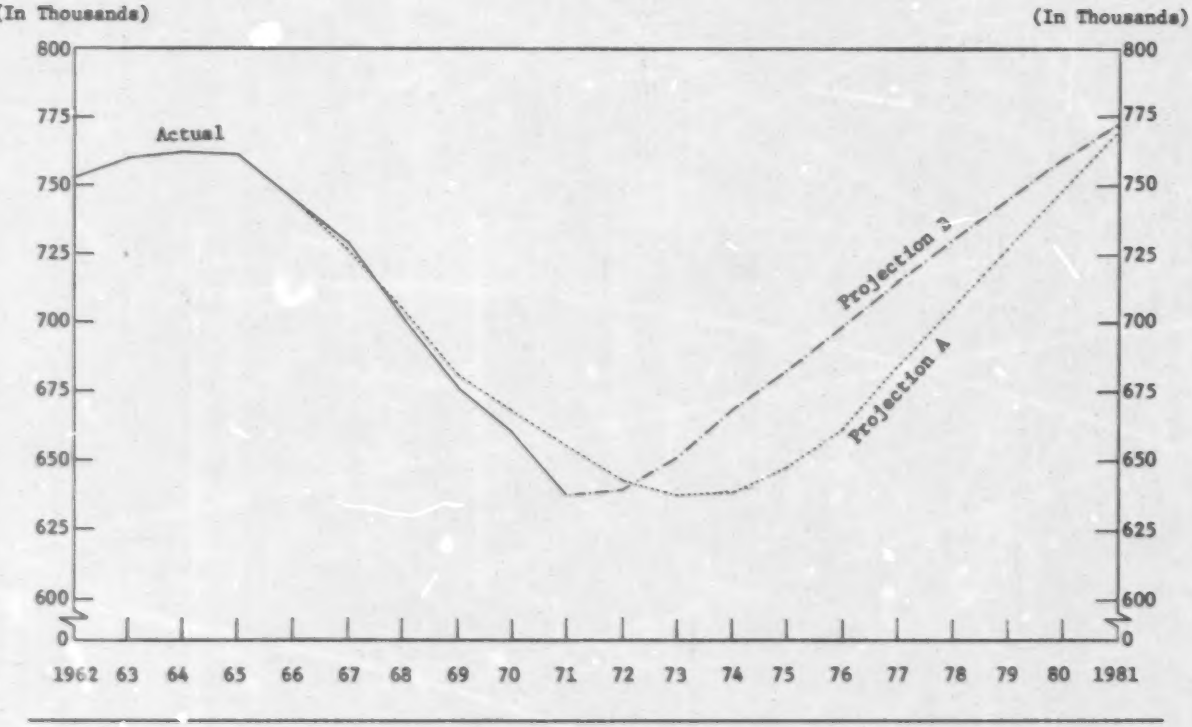


Source: Table 43 and Table 44.

GRAPH 19

PROJECTED POPULATION BY AGE GROUP 0-4, ONTARIO

Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981

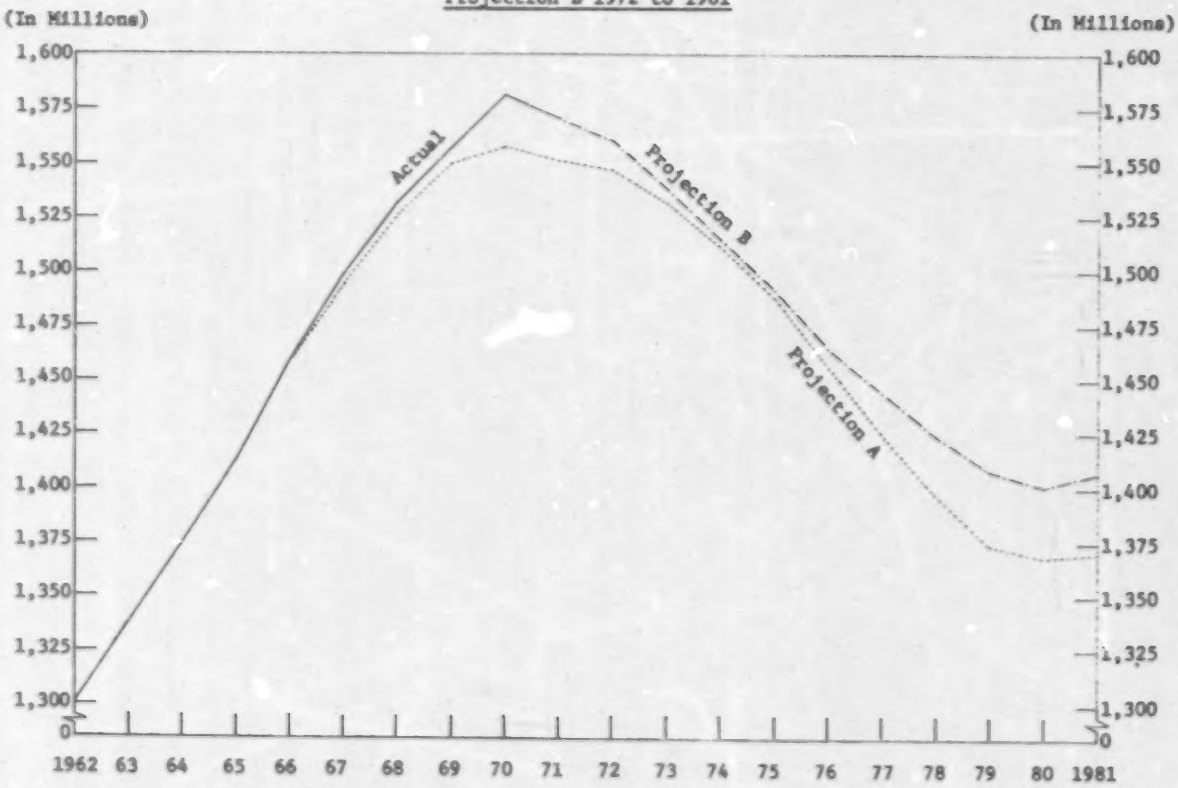


Source: Table 43 and Table 44.

GRAPH 20

PROJECTED POPULATION BY AGE GROUP 5-14, ONTARIO

Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981

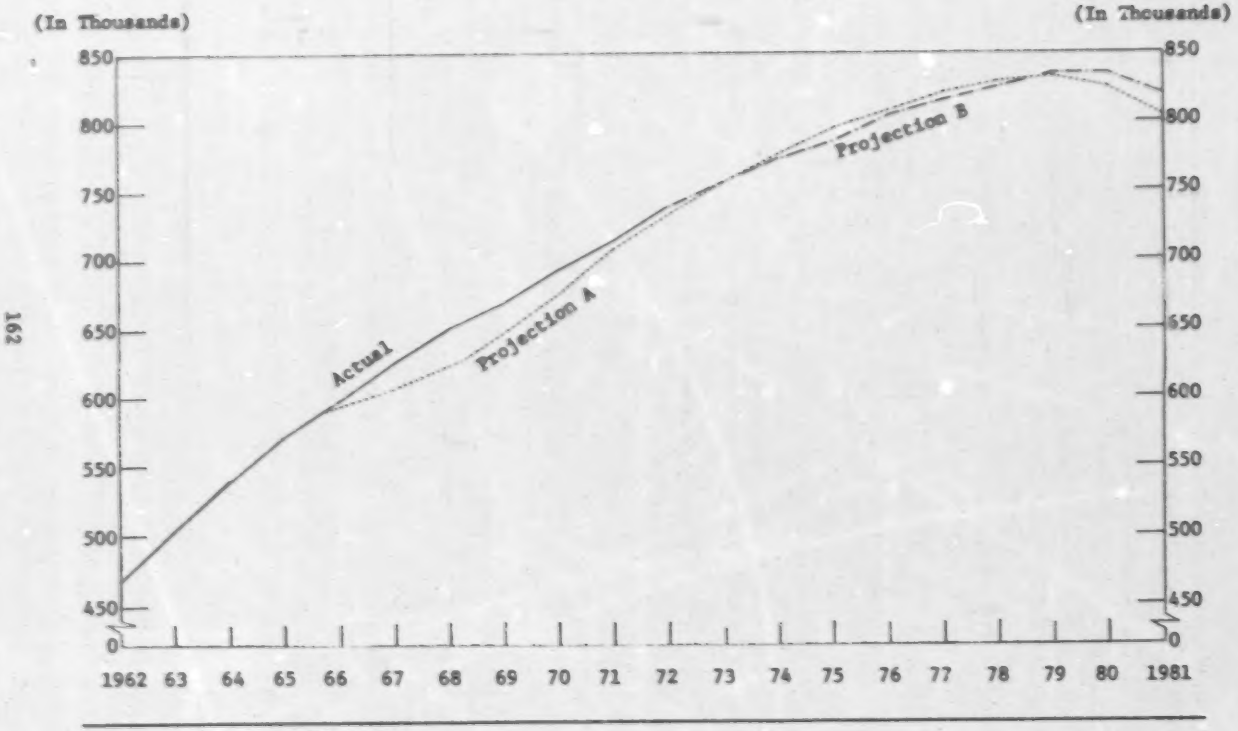


Source: Table 43 and Table 44.

GRAPH 21

PROJECTED POPULATION BY AGE GROUP 15-19, ONTARIO

Actual 1962 to 1971
Projection A 1967 to 1981
Projection B 1972 to 1981



Source: Table 43 and Table 44.

The age group 0-4 was expected to decline in numbers at an average annual rate of 2.1 per cent until 1973 and to increase thereafter at an average rate of 2.6 per cent per annum (Table 43 and Graph 19). The age group 5-14 was expected to show an average annual increase of 1.3 per cent to 1970 and then an average annual decline of 1.4 per cent until 1980, after which it was expected to increase again (Table 43 and Graph 20). The age group 15-19 was forecast to continue growth from 1966 to 1971 on an average of 3.6 per cent per annum and thereafter at an average growth of 2.2 per cent per annum until 1979. A decline in this age group, beginning in 1980, was expected to continue through 1981 (Table 43 and Graph 21). It was on the basis of these data that a forecast of enrolment to 1981 was developed (Table 45, Graph 22 and Graph 23) before the results of the census in 1971 were available. The actual census figures in 1971 showed that the total population projection based on the computer printout data was underestimated by about 120,000, or 1.6 per cent.

Population Projection B

A revised projection of total population was developed using the actual data of the census in 1971 as the base[3] (Table 44, Graph 18, Graph 19, Graph 20, and Graph 21). In the light of the experience to 1971, new assumptions were made about the effect of demographic factors on total population. Using the base of the Total Fertility Rate of 2,219 in 1971, it was assumed that this rate would continue to decline until it reached 2,105 in 1986. A net migration of 60,000 per annum has been assumed in place of the 50,000 used in the development of Population Projection A. Future mortality trends have been assumed to follow the rate of decline shown in the following estimate:

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[3] Ontario Short-Term Population Projections, 1971-1986, Demographic Studies Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, January, 1973.

TABLE 44

PROJECTED POPULATION BY AGE GROUP, ONTARIO

Actual 1971[1]
Projection 1972 to 1981[2]

Year	Age Groups									
	0-4		5-14		15-19		20 and Over		Total	
	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent	Population	Per Cent
					Actual					
1971	637,260	8.3	1,571,230	20.4	713,365	9.3	4,781,250	62.0	7,703,105	100
					Projection B					
1972	638,912	8.2	1,560,541	19.9	735,545	9.4	4,899,637	62.5	7,834,633	100
1973	651,849	8.2	1,538,638	19.5	755,805	9.5	5,022,256	63.0	7,968,549	100
1974	668,163	8.2	1,513,955	18.7	773,657	9.6	5,149,034	63.5	8,104,807	100
1975	682,517	8.3	1,491,596	18.1	786,986	9.5	5,282,147	64.1	8,243,246	100
1976	699,411	8.3	1,465,381	17.5	803,533	9.6	5,415,465	64.6	8,383,789	100
1977	715,153	8.4	1,444,892	16.9	815,085	9.6	5,551,225	65.1	8,526,353	100
1978	730,461	8.4	1,424,748	16.5	826,350	9.5	5,689,139	65.6	8,670,700	100
1979	745,226	8.5	1,409,476	16.0	833,338	9.4	5,828,563	66.1	8,816,601	100
1980	759,268	8.5	1,401,204	15.6	833,694	9.3	5,969,578	66.6	8,963,743	100
1981	772,456	8.5	1,406,892	15.4	818,786	9.0	6,113,752	67.1	9,111,885	100

Note: Totals may not be the same as sum of figures in distributions because of rounding.

Sources: [1] Census of Canada, 1971, Statistics Canada.

[2] Ontario Short-Term Population Projections, 1971-1986, Demographic Studies Section, Economic Analysis Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, January, 1973.

PROJECTED MORTALITY RATES

1971 to 1981

Age Group	Rate of Decline (per cent per annum) Male	Female
0-1	1.9	2.2
2-4	0.6	0.4
5-14	0.3	0.1
15-19	0.2	0.1
20-24	0.0	0.1
25-29	0.2	0.2
30-44	0.3	0.2
45-59	0.8	0.8
60-69	1.0	3.0
70+	0.7	1.4

It is anticipated that the age group 0-4 will show an average annual increase of 2.1 per cent from 1971 to 1981 (Graph 19). The number of five-year-olds will decline from 133,785 in 1971 to 125,650 in 1973 and thereafter will rise steadily to 151,249 in 1981. The number of 5 to 14-year-olds will decline at an annual rate of 1.2 per cent from 1971 until 1980 before it begins to increase in 1981 (Table 44 and Graph 20). The age group 15-19 will experience an increase in numbers at a decelerating rate until 1980 before a decline begins in 1981 (Table 44 and Graph 21). In total, the increase in population from 1971 to 1981 is expected to show an average growth of 1.8 per cent per annum.

Enrolment Projections, 1972-73 to 1981-82

Elementary

The total enrolment projection for the elementary schools (Table 45) was derived from two sources. The projections for grades 1 to 8 and special education were adopted from the work of researchers in the Department of Educational Planning of The Ontario Institute for Studies in Education,[4] using as a base the total population as shown in Projection A (Table 43).

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[4] Watson, C., Quazi, S., and Kleist, A., Ontario Elementary School Enrollment Projections to 1981/82, Part 2, (1971 Projection), The Ontario Institute for Studies in Education/Enrollment Projections 6, Toronto, 1971.

TABLE 45

ENROLMENT IN ELEMENTARY AND SECONDARY SCHOOLS, ONTARIO

Actual 1967-68 to 1971-72[1]
Projection 1972-73 to 1981-82

School Year	Elementary	Secondary		
1967-68	1,405,052	463,736		
1968-69	1,430,590	500,807		
1969-70	1,456,117	530,679		
1970-71	1,465,488	556,913		
1971-72	1,456,840	574,520		
	Estimate	Estimate A[4]	Estimate B[5]	Estimate C[6]
1972-73	1,444,032[2,3]	592,023	594,565	626,073
1973-74	1,426,577	607,940	616,565	646,101
1974-75	1,409,350	624,332	634,841	663,558
1975-76	1,387,715	636,718	645,990	676,789
1976-77	1,362,864	643,932	651,481	684,541
1977-78	1,335,622	646,041	652,620	688,271
1978-79	1,307,742	645,743	650,457	686,713
1979-80	1,291,441	643,023	636,884	672,049
1980-81	1,284,969	628,333	621,462	648,376
1981-82	1,292,022	606,299	606,708	623,883

Sources: [1] Reports of the Minister of Education, 1967 to 1971.

[2] Adaptation of Watson, C., Quazi, S., and Kleist, A., Ontario Elementary School Enrollment Projections to 1981/82, Part 2, (1971 Projection), The Ontario Institute for Studies in Education/Enrollment Projections 6, Toronto, 1971.

[3] Adaptation of Ontario Elementary and Secondary School Enrolment Projections, 1971-1981, Statistical Unit, Ontario Department of Education, Toronto, July 7, 1971.

[4] Adaptation of Watson, C., Quazi, S., and Kleist, A., Ontario Secondary School Enrollment Projections to 1981/82, (Mimeographed), The Ontario Institute for Studies in Education, Toronto, 1969.

[5] Watson, C., Quazi, S., and Kleist, A., Ontario Secondary School Enrollment Projections to 1981/82, The Ontario Institute for Studies in Education, Toronto, June, 1972.

[6] Watson, C., Quazi, S., and Kleist, A., Ontario Secondary School Enrollment Projections to 1981/82, (1969 Projection), The Ontario Institute for Studies in Education/Enrollment Projections 5, Toronto, 1970.

Their projections were made for the province as a whole and were broken down by county and district. For detailed information about the assumptions made and the methodology used, recourse should be had to the study itself.

Enrolments in kindergarten and in grades 9 and 10 at the elementary level were projected by the then Statistical Unit, Department of Education,[5] on a provincial basis, but there was no breakdown of these figures by county and district. The provincial projections were pro-rated among the counties and districts and the results added to the figures for grades 1 to 8 and special education. The combination of the projection by The Ontario Institute for Studies in Education for grades 1 to 8 and special education and the projection of the then Department of Education for kindergarten and grades 9 and 10 in the elementary schools provided an overall projection embracing the total program in the elementary school.

Using the enrolment of 149,148 reported in 1971-72 as the base, it is expected that kindergarten enrolment will increase at an average rate of 2.8 per cent per annum until it reaches 191,040 in 1981-82. It is assumed that the percentage of four-year-olds enrolling in junior kindergartens will continue to increase as additional classes for children of this age are established. In 1971-72, approximately 33 per cent of the total kindergarten enrolment was made up of four-year-olds.

Enrolment in grade 1 is expected to decline from the figure of 155,051 in 1971-72 to 133,321 in 1978-79, at an average annual rate of 2.0 per cent and then to increase gradually to 1981-82. Consequently, enrolments in grades 2, 3, and 4 will reach their lowest levels of the decade in 1979-80, 1980-81, and 1981-82 respectively. Enrolment in grade 5 was at its peak in 1972-73 and this high point will be carried through grades 6, 7, and 8 in 1973-74, 1974-75, and 1975-76 respectively. For the elementary level

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[5] Ontario Elementary and Secondary School Enrolment Projections, 1971-1981, (Memorandum from Deputy Minister of Education, June 28, 1971), Statistical Unit, Ontario Department of Education, Toronto, July 7, 1971.

as a whole, enrolments are expected to decline at an average rate of 1.3 per cent per annum until 1980-81 and to increase thereafter (Table 45 and Graph 22).

Since the publication of the two population projections on which our estimate of future elementary school enrolment was based, The Ontario Institute for Studies in Education[6] and the Ministry of Education[7] have issued revisions of their studies. These revisions suggest a lower enrolment in the elementary school than our estimate, but actual figures for 1972-73 show an enrolment of 1,069 in excess of the figure of 1,444,032 in our estimate for that year.

Secondary

Three projections of secondary school enrolment to 1981-82 are shown in Table 45 and Graph 23. Each of these was developed at different times by the Department of Educational Planning of The Ontario Institute for Studies in Education. Estimate C,[8] released in 1969, included a breakdown of provincial totals by grade for the counties and districts. The actual enrolment figures for 1970-71 and 1971-72 were considerably below Estimate C for these years.

A revision of the 1969 projection was published in June, 1972, including a new breakdown by counties and districts. The provincial totals are

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[6] Watson, C., Quazi, S., Kleist, A., and Siddiqui, F., Ontario Elementary School Enrollment Projections to 1981/82, (Mimeographed), The Ontario Institute for Studies in Education, Toronto, June, 1972.

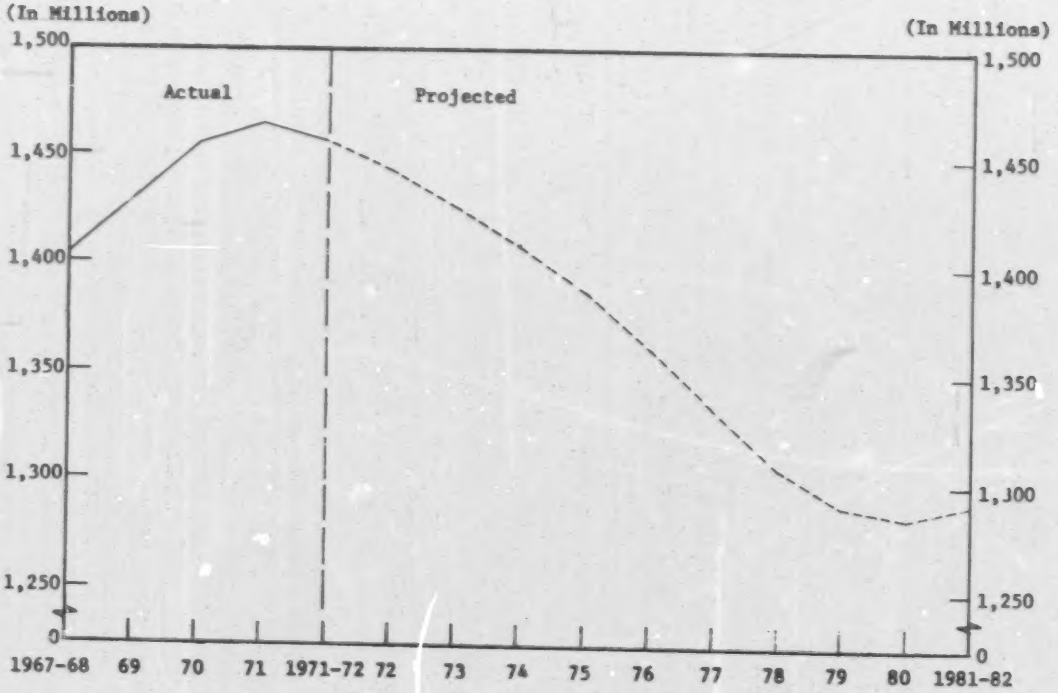
[7] Ontario Elementary and Secondary School Enrolment Projections, 1972-1982, Planning and Research Branch, Ministry of Education, Ontario, Toronto, June, 30, 1972.

[8] Watson, C., Quazi, S., and Kleist, A., Ontario Secondary School Enrollment Projections to 1981/82, The Ontario Institute for Studies in Education, Toronto, 1969.

GRAPH 22

ENROLMENT IN ELEMENTARY SCHOOLS, ONTARIO

Actual 1967-68 to 1971-72 and Projected 1972-73 to 1981-82

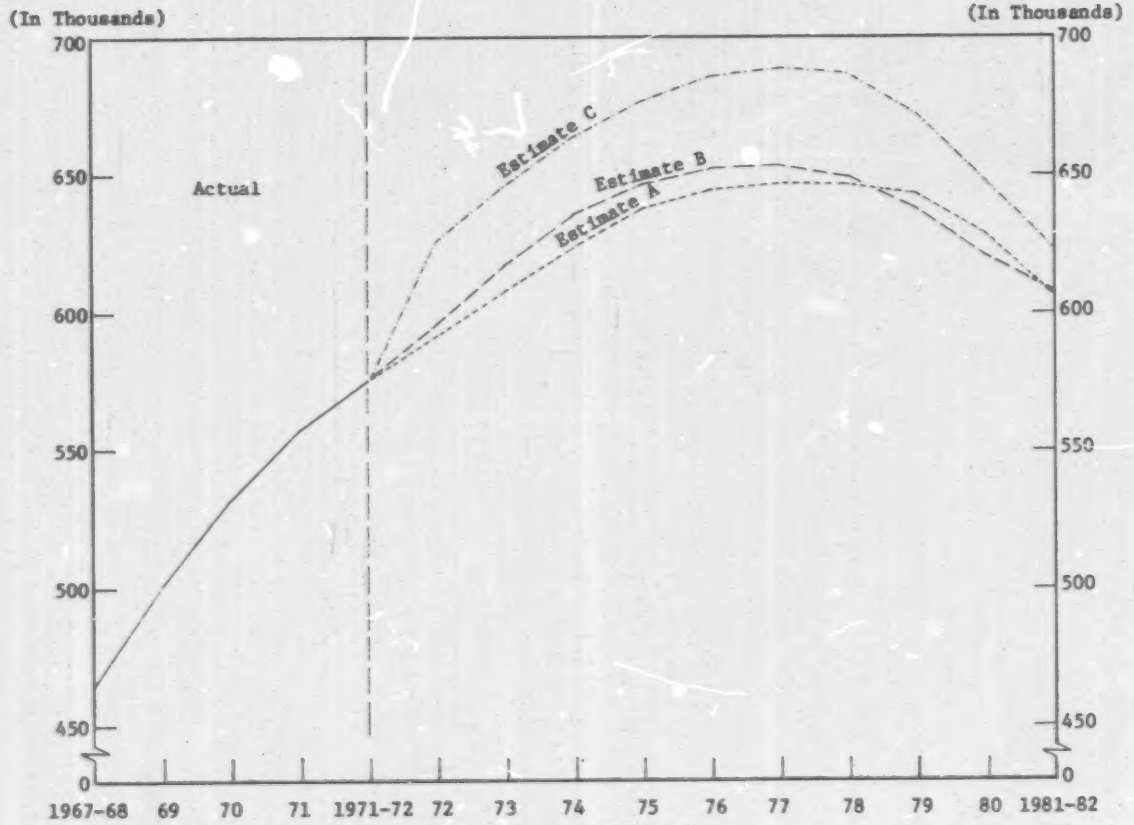


Source: Based on Table 45.

GRAPH 23

ENROLMENT IN SECONDARY SCHOOLS, ONTARIO

Actual 1967-68 to 1971-72 and Projected 1972-73 to 1981-82



Source: Based on Table 45.

given in Estimate B[9] and show a substantial reduction from those of Estimate C.

Between the two published sets of projections shown in Estimate C and Estimate B, the Department of Educational Planning in December, 1971, made provisional projections[10] based on enrolment statistics up to and including 1971-72. These were compiled only on a provincial basis and are shown here as Estimate A. At the time the Committee was deciding on enrolments for its studies, it adopted Estimate A. The revised figures as provided in Estimate B in June, 1972, are slightly higher than those in Estimate A. In 1972-73, for example, the difference was only 2,542 for the whole province and in 1981-82, the difference is only 409 students. The actual figure for 1972-73 was 583,013, so that for that one year the lowest figure in the three Estimates was high.

The three projections developed at three different points in time provide the data for a comparative study of possible trends in enrolment at the high, medium, and low levels. On the basis of recent experience, Estimate A, the lowest of the three projections, seems closest to the pattern likely to develop. One of the contributing factors to the sharp deceleration in the rate of increase to 1977-78 and to the decline in actual enrolment thereafter to 1981-82, is the decision by a fairly substantial number of students to discontinue their attendance at the secondary school in favour of other pursuits. It is difficult to estimate the extent of this development or the length of its duration. It may be that students will return to their studies after an interval of a year or two or at an even later date. In any case, it would seem that they would not likely return to the secondary school but that they would more probably enter a post-secondary

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[9] Watson, C., Quazi, S., and Kleist, A., Ontario Secondary School Enrollment Projections to 1981/82, The Ontario Institute for Studies in Education, Toronto, June, 1972.

[10] Ontario Public Secondary School Fall Enrollment by Grade 1962-81, (Mimeographed), Department of Educational Planning, The Ontario Institute for Studies in Education, December, 1972.

institution, particularly if the trend to a more open-door policy on admission to these institutions continues to develop. If, however, the decision of more students to leave the secondary school should prove to be a short-term phenomenon, enrolments might prove to be higher than in Estimate A. In the light of present uncertainties, Estimate A seems to provide a realistic projection of secondary school enrolments to the end of the forecast period in 1981-82.

Estimate A projects an increase in enrolment until 1977-78. In the latter year, the figure of 646,041 will be 12.4 per cent higher than the actual enrolment of 574,520 reported for 1971-72, or an average annual increase of slightly more than 2.1 per cent. A deceleration in the rate of increase in enrolment began in 1968-69 and continued through 1971-72. It is anticipated that an actual decline in enrolment will occur in 1978-79 and that it will continue to 1981-82. By the latter year, the enrolment is projected at 606,299 or an average rate of decline of 1.5 per cent per annum from the high point of 646,041 in 1977-78.

It is anticipated that enrolment in grade 9 will be at a peak of 154,245 in 1974-75 and that by 1981-82 there will be an overall decline to 130,650, or 15.3 per cent, or an average annual decline of 2.2 per cent. The peak enrolment in grade 9 in 1974-75 will result in peak enrolments in the four subsequent years in grades 10, 11, 12, and 13. The pattern of increase in total enrolment to 1977-78 and the decline thereafter is the result of the age cohorts of the high birth rate years of the 1950's moving through the secondary schools followed by the later smaller age cohorts of the declining birth rate years of the 1960's.

General

The influences of total population, fertility, live births, mortality, and migration on school enrolments have been demonstrated in this study. It is imperative that the significance of these factors for planning and decision-making be fully understood and appreciated within the Ministry of Education and by school

boards and that the public be aware of their importance. The requirements of greatly increased enrolments in the 1950's and early 1960's made rapid expansion of facilities, services, and programs necessary. The deceleration of the rate of increase in numbers in the later 1960's and the actual decreases projected for the 1970's make forward planning based on sound statistics and analytical procedures absolutely imperative. Otherwise, costly errors and the misuse of scarce resources could occur. We found considerable evidence that many officials and school boards have not modified their views and plans in accordance with the facts about the numbers of students for whom provision must be made.

The Ministry of Education and school boards must ensure that within the areas of their particular jurisdictions and responsibilities provision is made for the development and distribution of statistics and other information about future enrolments. It will not be adequate to assign these roles to personnel who have many other responsibilities or who lack the ability to develop the data, to analyse the results, and to understand the implications. The need is for a high priority for planning; for detailed and sophisticated studies, including those having to do with future enrolments, conducted by trained and knowledgeable staff; for an understanding by decision-makers, whether elected representatives or their officials, of the importance of valid information; and for an awareness by the public of the basis on which decisions are made. This last requirement is a function and a responsibility of the Ministry of Education and school boards. It demands objectivity in the information provided and a clarity and completeness in presentation that have not been characteristic of much of the material brought to the attention of this Committee.

APPENDIX

DEFINITIONS

Age-specific Fertility Rate	The number of births to women of childbearing ages (15 to 49) in an age group per thousand women in the same age group.
Age-specific Mortality Rate	The number of deaths in a specific age group per thousand population in the same age group.
Crude Birth Rate	The number of live births per thousand population.
Divorce Rate	The number of divorces per hundred thousand population.
Female Labour Force Participation Rate	The number of female workers in the labour force as a percentage of the female population 15 years of age and over.
General Fertility Rate	The number of births per thousand women 15 to 49 years of age.
Gross Reproduction Rate	The average number of female children born to a hypothetical female birth cohort if subjected to current age-specific fertility rates and assuming zero mortality for the cohort until age 50.
Infant Mortality Rate	The number of deaths of those under one year of age per thousand live births.
Labour Force Participation Rate	The number of male and female workers in the labour force as a percentage of the population 15 years and over.
Live Birth Rate	Number of infants born alive, excluding stillbirths, per thousand population.
Marriage Rate	The number of marriages per thousand population.
Mortality Rate	The number of deaths per thousand population.
Natural Increase Rate	The excess number of births over deaths per thousand population.
Neonatal Mortality Rate	The number of deaths of infants four weeks and under per thousand live births.
Perinatal Mortality Rate	The number of deaths of infants under seven days of age and foetal deaths of 28 weeks' gestation per thousand total births.

Postneonatal Mortality Rate	The number of deaths of infants between four weeks and one year of age per thousand live births.
Standardised Mortality Rate	Mortality rates calculated on an arbitrary standard population of one particular year to offset the changes in overall mortality rates due to changes in age composition of the population.
Total Fertility Rate	The sum of age-specific fertility rates multiplied by the number of years of age represented in the age groups.

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